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Terror Management Theory: Relationships and Career Aspirations in University Women

by

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Dedication

This thesis is dedicated to my parents, Albert and Gail Major, who have instilled a sense of worth and accomplishment in me long before my academic pursuits and achievements. I also dedicate this thesis to my friends in Regina and those in my counselling cohort who have shown me unconditional love and support over the past two years. Finally, I dedicate this thesis to Omar, whose presence in my life reflects the results of my research, and has taught me the significance of having a truly meaningful relationship while realizing individual dreams.

Abstract

Terror management theory has well documented evidence showing that romantic relationships serve as existential death anxiety buffers (V. Florian, M. Mikulincer, & G. Hirschberger, 2002). This study examined the possibility that career aspirations, instead of romantic relationships, serve a buffering function for some career-oriented single women in university settings. One hundred and ninety-nine female university students, 94 who were single and 105 who were in committed romantic relationships, were asked to imagine a threat to a relationship, to a career aspiration, or to a control. Death thought accessibility was subsequently measured. Romantic attachment was also assessed for potential moderating effects. Relationships were generally found to be a more powerful death anxiety buffer than career aspirations for both single and committed women. Attachment style did not play a significant role in these findings. Results were discussed in light of terror management theory, existential philosophy, and feminist literature.

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CHAPTER 1

INTRODUCTION

I have no life but this,

To lead it here;

Nor any death, but lest

Dispelled from there;

Nor tie to earths to come,

Nor action new,

Except through this extent,

The realm of you.

-Emily Dickinson

The notion that a romantic relationship can be so powerful that it can somehow defy one's own death is not a new one. For centuries, writers, poets, and song writers alike have paid homage to the idea of love and its transcendental nature. Thus, it should come as no surprise that during the first four years following the devastating Oklahoma City bombing in the United States, divorce rates significantly decreased in the majority of Oklahoma's counties (Nakonezny, Reddick, & Rodgers, 2004). If a cultural association exists between romantic love and survival in the face of death, it makes sense that individuals witnessing such a tragedy would cling to their marriages in hopes of

protecting themselves from their own demise. But where does this seemingly tenuous association between relationships and death come from? Are humans conscious of the connection? What purpose, if any, does it serve for human beings?

Evolutionary psychologists would argue that close relationships once served adaptive survival functions in environments far more precarious and deadly than our own. By searching for the company and support of others, primates were protected from a predator's attack, able to gather food more easily, and increased their chances of reproduction (Mikulincer, Florian, & Hirschberger, 2003). Attachment theorists might suggest, as Hazan and Shaver (1987) have, that an individual's current attachment to a partner is established in part by his or her childhood relationship with primary caregivers. Young children, being extremely vulnerable and unable to care for themselves, depend on their attachment relationship with the caregiver for survival. This attachment bond is eventually transferred from one's parent to one's romantic partner and a similar sense of dependency on another for survival still remains in the adult relationship. While both theories offer viable insights into love's impact on death transcendence, neither fully grasps this mysterious notion that romance can relieve one's feelings of anxiety surrounding death.

Within his various important works, particularly *The Denial of Death*, Ernest Becker (1973) developed a revolutionary way of summarizing the role of relationships in dealing with death by identifying and synthesizing the ideas of various prominent social scientists (Solomon, Greenberg, & Pyszczynski, 1991a). Becker stated that despite the world's pain, suffering, and inevitable end, the Judeo-Christian worldview initially served to fulfill people because it emphasized serving God and enduring hardships in order to

gain entry into heaven. Thus, the fear of death was diminished with the hope of eternal life. However, as awareness and knowledge increased with time, the cultural worldview that had emphasized the importance of religion gradually diminished in the West and was replaced with what Becker called the "romantic solution" (p. 160). According to Becker, romantic relationships provide the same benefits that religion once did as they contribute to human beings' desire for heroism, self-glorification, existential meaning, and ultimately, their death denial.

Inspired by Becker's work, researchers in social psychology initiated "experimental existential psychology" by formulating a testable theory based on Becker's ideas called terror management theory (TMT; Solomon, Greenberg, & Pyszczynski, 1991b). The central idea in TMT is that given their unique and mixed blessing of being self-aware, humans are also aware that they must die someday, and this inspires deep anguish and terror from which they must defend themselves. According to TMT, humans manage this existential terror surrounding the inevitability of death through two death anxiety buffers: the enhancement of their self-esteem and adherence to their cultural worldview. As a result, people believe their world has order, structure, and perhaps most importantly, meaning (Solomon et al.). Recently, close relationships have been investigated as a third possible death anxiety buffer (Mikulincer, Florian, & Hirschberger, 2004). Results from these studies have been effective in establishing the power of relationships in the denial of death.

While studies have shown that relationship factors appear to act as an additional anxiety buffer for men and women, Florian, Mikulincer, and Hirschberger (2002) suggest that relationship commitment may have a stronger anxiety-buffering effect for women

since commitment is a fundamental part of women's cultural worldview. However, with the changing times, the priorities of women in today's society appear to be changing as well. In fact, for many young women, preparing for a lifelong career has become their primary goal and marriage is increasingly becoming secondary (Zunker, 2002). Since women who focus their time on career development have problems creating equal marital relationships (Zunker), career focussed women, particularly those who are single, may be less likely to have romantic relationship anxiety buffers in their life. Although close relationships appear to provide several benefits to women such as symbolic permanence, meaning, and the transcendence of death (Mikulincer et al., 2003), women who are without a romantic relationship may have access to these benefits through other areas of their lives. Perhaps these are benefits they reap as a result of academic and career aspirations: a new focus for women in the 21st century.

Present Study

The present study was designed to address possibilities not yet examined in TMT literature related to romantic relationships. Florian et al. (2002), leading TMT figures, encouraged researchers to study situations where having a relationship may be at odds with another goal that is valued by society in order to determine if individuals are willing to compromise their worldview to maintain their relationship. For women in Western society, career aspirations and goals are highly valued yet have a considerable probability of conflicting to at least some degree with relationship goals. Comparing mortality salience effects between university women in committed relationships and women who are single is expected to provide insight into whether academic and career pursuits act as an anxiety buffer for those who are currently without a romantic partner and therefore

lacking a relationship-focussed buffer. In order to test these ideas, we went into classrooms in a university setting and had both single women and women in committed relationships complete questionnaires. Within these questionnaires were standard measures of depression, self-esteem, attachment, and overall affect. The questionnaires also included TMT instruments designed to measure death thought accessibility after receiving a threat to a valued anxiety buffer such as a relationship or career aspiration.

Overview of Thesis

Since existentialism serves as the foundation on which TMT is built, chapter two begins by reviewing relevant literature in existential psychology and the concerns about anxiety, death, and meaning that are shared by all humans. Insights from the influential writing of Ernest Becker will also be described and will lead to an overview of the development and evolution of terror management theory within social psychology. The recent addition of relationships, particularly romantic relationships, to the conceptualization of TMT will then be discussed in detail along with issues of attachment in adult romantic relationships. The struggle for women in today's society to balance both their career aspirations and their romantic relationships will also be outlined and will lead to the formulation of the hypotheses tested in the current study. The methodology chapter that follows will outline the criteria for participation in this study, recruitment strategies, demographic information, measures used, and the procedures implemented to carry out the study. The results chapter will then describe the analyses employed for both the preliminary descriptive analyses and the evaluation of the hypotheses to be tested. Finally a discussion chapter will summarize the findings in light of TMT literature and feminist

issues in order to gain a new understanding of the role of relationships for those who are single, and those who are not.

CHAPTER II

LITERATURE REVIEW

Existentialism

Existentialism is a broad philosophical movement that focuses on both the tragic limitations and the possibilities of the human situation. It highlights the unique plight of human beings among animals because of their cognitive capacity for awareness regarding their inevitable demise. Existential issues became a focus of study in the existential school of philosophy which was built on the modern tradition of philosophical subjectivity inaugurated by Descartes, Kant, and Hegel. This foundation was then built upon (and often disputed) by philosophers such as Kierkegaard, Nietzsche, Heidegger, Sartre, Marcel, Camus, Jaspers, Buber, Tillich, and numerous others who are properly called philosophical existentialists (Pyszczynski, Greenberg, & Koole, 2004). Despite their sometimes radically different views and perspectives, each of these philosophical minds provided important insights as to what it truly means to be human and how one is able to find meaning given the complexities of life and death (Pyszczynski, et al.). The fundamental idea in existentialism is that philosophy should cease being about arid abstractions in order to focus on the actual facts each person must face: that they are a conscious being thrust alone into a mysterious existence filled with suffering and inevitable death and that they have to somehow make some sense of this frightening reality.

This search for meaning is considered to be an extremely difficult task, particularly if one expects the proponents of existentialism to be her guide. As Cooper (2003) explained, existential literature is full of contradictory views and lacks any sort of

right answer to life's biggest questions. In fact, one of its fundamental arguments is that each person must actively participate in the discovery or creation of his or her own personal meaning. However, Cooper did describe one commonality: each existentialist presents a radical challenge to our every-day assumptions about human existence. Another commonality, as pointed out by Wahl (1949), was the belief first proposed by Kierkegaard who, in his opposition to Hegel's radical pursuit of rational objectivity, stated that truth lies in subjectivity.

Jean-Paul Sartre also described the differences in existential thinkers and highlighted the importance of subjectivity. During a famous lecture designed to defend existentialism from criticism at the Club Maintenant in 1948, Sartre noted that despite fundamental differences in worldviews (existential philosophers of the time were either Christians or atheists), each philosopher held fast to the assertion that existence precedes essence (Sartre). This suggests, explained Sartre, that individuals are who they conceive themselves to be subsequent to existing. In other words, they can only "be" that which they freely make themselves. To elucidate this idea one must compare humans to all other objects in the world. All of these things, both alive and inanimate, are given a specific essence while humans are able to exercise their innate freedom and actively create their own essence. Their lives are projects of free self-creation and who a given person becomes is a result of a series of choices. Thus for animals, trees, and material objects present on the earth, existence and essence are one and the same. Humans, however, are thought to exist first, and then freely create their essence. In short, humans are provided with the gift of subjectivity, freedom, and the quest for personal meaning.

Sources of Anxiety

Within this unified principle of subjectivity in existential thought, comes a heavy burden of responsibility placed on the shoulders of all human beings. When Sartre (1948) declared that "man is condemned to be free," he was referring to the idea that although people are not responsible for their own conception, in the process of becoming part of the world, they became responsible for their actions (p. 6). According to Prochaska and Norcross (2003) this overwhelming responsibility results in feelings of anxiety and existential dread because each human being is aware that she alone must create her own meaning and she alone is responsible if meaning dies.

If individuals do not take such responsibility and instead choose to live inauthentically, they are said to be living in "bad faith" (Cooper, 1999, p. 3). More specifically, they are living in such a way that they do not question who they are, they allow themselves to be absorbed by circumstance, and they become taken over by those around them (Van Deurzen, 2005). In other words, they are unable to accept the burden that comes with freedom and responsibility so they let others make decisions for them. They are willing to live by alien values if that is what everyone else is doing. May (1983) stated that Kierkegaard and Nietzsche would identify this act of nonbeing or inauthentic living, as the primary source of despair and anxiety in human existence.

Death

According to Cooper (2003), along with constructs such as freedom and inauthentic living, the fact that the very nature of existence involves an inevitable end, also brings forth powerful feelings of anxiety. Death, and its looming presence in every human being's life, has been a central topic of discourse among existentialists. According

to Yalom (1980), it is death that holds the most primitive source of anxiety for humans. He stated that "death itches all the time" (p. 29) and it is this constant awareness of an inevitable end, coupled with the desire to live eternally, that creates the core existential conflict. He believed that ultimately, it is one's attitude towards death that impacts both the growth and decline of existential pursuits. Thus, the focus on death in existentialism was not meant to highlight the dismal side of human life, but was instead meant to reveal a path towards an authentic existence. (Cooper, 1999).

How do existentialists propose human beings "use" the idea of their own death in an attempt to live authentically? One might begin by trying to understand the function of death in living a meaningful life. As Cooper (1999) explained, if humans were to live forever, each individual would eventually experience everything life has to offer. If this was the case, there would be no sense of urgency in choosing a particular path that is meaningful. Thus, according to Cooper, the recognition of finitude is deeply connected to a sense of oneself as a free individual. Although death marks the end of existence for human beings, the idea of death saves them from living an inauthentic life (Yalom, 1980). Thus, the limits imposed in the very structure of human life make one's freely chosen life project, one's values and choices, deeply meaningful.

Death and Psychotherapy

It is no wonder, then, that Irvin Yalom, who is considered the "best known advocate of existential therapy in America—if not the world" (Cooper, 2003) encourages his clients to use the prospect of their own eventual death as a core theme as they work through the process of healing. Within a therapeutic context, Yalom (1980) presents several existential tasks to his clients. First, they must stop denying their death through

the belief that they are special, unique, and even sacrosanct because the universe does not recognize this specialness and often leaves them feeling betrayed. He claims that clients must also come to understand the limits of their ultimate rescuer (the force or being that they believe will end their suffering and eternally protect, love, and help them transcend the limits of human existence). Ultimately, he claims, this too will breakdown and leave people feeling vulnerable and betrayed. According to Yalom, clients must end their denial and deal with their death anxiety, the primary force in their psychopathology, by accepting its inevitability.

The Denial of Death

Despite the common assertion among existentialists that denying one's death to reduce anxiety can be detrimental to authentic living, most people prefer to become distracted from the idea of their demise and lead an inauthentic existence (Cooper, 1999). Heidegger would describe this as a state of forgetfulness of being in which one loses oneself within the everyday distractions and diversions of life (Yalom, 1980). There is no doubt among existentialists that a denial of death exists. It is also clear that this self-deception comes with a substantial cost (Cooper). Why and how this denial occurs is more effectively explained by Ernest Becker (1973), Pulitzer Prize winning author of *The Denial of Death.* In this book, Becker attempted to synthesize the ideas of numerous theorists to better understand the social behaviour of human beings (Greenberg, Pyszczynski, & Solomon, 1986).

According to Becker (1973) there are countless things that move human beings in their lifetime, but none are as powerful as the terror of death. While some might argue that many individuals live their lives unmoved by thoughts of death and live healthy,

"normal," unaffected, lives, Becker would respond that the fear of death resides in these people as well. To witness their fear, claimed Becker, one must simply watch when the shocking events of life cause people to scramble for safety, jarring loose their repression and defenses. Thus, since all humans were born with the instinct of self-preservation, Becker believed that behind all "normal" functioning, the fear of death is present. Two important questions can be derived from such ideas: why do human beings repress thoughts of death and how do they accomplish this?

The Function of Death Denial

In the passage below, Becker (1973) described the existential paradox at the core of the human condition:

> Man has a symbolic identity that brings him sharply out of nature. He is a symbolic self, a creature with a name, a life history. He is a creator with a mind that soars out to speculate about atoms and infinity, who can place himself imaginatively at a point in space and contemplate bemusedly his own planet. This immense expansion, this dexterity, this ethereality, this self-consciousness gives to man literally the status of a small god in nature, as the Renaissance thinkers knew. Yet, at the same time, as the Eastern sages also knew, man is a worm and food for worms. (p. 26)

All animals die but most animals are spared an awareness of their demise, whereas human beings are cursed with the awareness that their life will eventually end. The above passage describes the two great fears of all human beings, namely, the fear of life and possibility as well as the fear of death (Becker). Thus, as Becker makes clear, humankind's condition is fraught with an unsettling irony because a person's most

fundamental need is to be free of the anxiety surrounding annihilation yet this anxiety is awakened and provoked by the very act of living. From this unsettling reality, people are left with a sense of immobilizing terror which hinders any possibility to be fully alive. Thus, many choose to deny this reality, and prefer to lead an inauthentic and automatic existence. This pseudo-existence and denial of humans' finite, animal-like nature, is facilitated by constructs created by humans such as the "soul" and "culture" which work to placate the underlying death anxiety that is present in every human being (Pyszczynski et al., 2004, p. 72).

The Heroic Existence

How have people traditionally managed to repress their fear of dying? According to Becker (1973), the primary way in which one can deny death is through the act of creating a heroic existence. In this way, one is able to stand out, to be viewed as important, and to justify oneself as an object of immense value. Heroism is not an entity to be pursued, however. As Becker explained, heroism is a natural urge that is continuously reinforced by a society based on status, roles, customs, and rules. In essence, Becker viewed heroism as simply a normal reflex or response to the terror of death. It is through heroism that Becker believed an individual is convinced that the things she created in society are of lasting value and worth and can somehow transcend her own death. The heroic existence was initially facilitated through a religious affiliation. However, this sense of heroism through religious beliefs was eventually replaced by romantic relationships.

Religious Transcendence

According to Becker (1973), who wrote from the perspective of Western culture, the heroic nature was, at one time, further secured within the Judeo-Christian worldview. Within this religious framework, the hero becomes an important part of a greater whole in which his destiny and purpose is mapped out as a servant to God. In return for his religious duties, the hero is rewarded eternal life, thus making the suffering, sickness, and death of the physical world a lesser concern. The hero secured by Christianity is not characterized by features of strength, courage, and intellect as one might expect. As Becker noted, in Christianity, holiness came from weakness not strength, from love not power, and it was available to the most humble of individuals. Any person who served God was worthy of heroism and transcendence from death. Becker believed that religion worked particularly well in denying death as it simply involved merging oneself with a higher power in order to gain access to a world free of finitude, pain, and meaninglessness. However, in his view, the worldview of a devout religious society was not a lasting construction. Becker noted that with the progression of time and change, came the end of a feeling of confidence in a secured heroism by means of God. According to Becker, when this occurred, individuals sought out a new "thou" to whom they could designate the status of a sort of divine ideal, capable of fulfilling and transcending their life (p. 161).

The Romantic Solution

This new source of fulfillment came in the form of a romantic partner and was deemed by Becker (and originally by his predecessor, Otto Rank) as "the romantic solution" (Becker, 1973, p. 160). Through the love of another human, Becker believed

that one seeks to attain the self-glorification required to fulfill all moral and spiritual needs. Thus, the spirituality, redemption, validation, and salvation that were once sought from another dimension are found within the mortal realm, in the form of the ideal love of another human. While at first glance, the denial of death and search for heroism through the association of another seems to be a reasonable substitution for a dying religious culture, Becker noted a substantial flaw. It is only from outside oneself, claimed Becker, that redemption can occur. If for example, one believes her romantic partner to be a reflection of herself, a measure of her good or bad nature, she will inevitably lose herself in the other and will be deemed simply a reflex of another human. A search for the perfect human partner, explained Becker, is an unreasonable exploration as every human has distinct wills, frustrations, and the ability to contradict and offend one's very nature. God, on the other hand, is described as "the perfect spiritual object" (Becker, 1973, p. 166), due to His abstract and ambiguous nature, God does not limit human development, allowing people to express their wills and needs without disruption.

Existentialism and Becker: The Common Thread

To summarize, the focus of death and anxiety in existential literature was placed within a philosophical context. The importance of subjectivity and of actively defining your essence by taking personal responsibility of your existence was revealed through the works of various philosophers, particularly Sartre (1948). This is not unlike the ideas of Becker (1973), who appeared to also value the power of subjectivity, viewing the religious path to heroism as exercising more subjectivity than the romantic path. Similar to his philosophical ancestors, Yalom (1980) believed that ultimately, humans must confront their existential anxiety in order to attain the meaning and purpose they seek.

The final question to ponder, then, is how does Becker respond to the idea of confronting one's death? If Becker believed the human race's tendency to deny is both natural and innate, does he believe it is possible to live any other way? To address this question, the famed anthropologist, whose primary goal was to address the ideas of the most paramount thinkers from the sciences to religion (without negating any one point of view), called upon the works of Kierkegaard. Thus, Becker's (1973) writing on this issue fell in line with his existentialist counterparts. He described true transcendence as a result of facing the anxiety and terror associated with death. In this way, the constructed self can be destroyed and self-transcendence can finally begin with faith and trust acting as one's newfound life task. While this offers an uplifting conclusion to the present investigation of death, the denial of death remains a pervasive feature of human existence, as will be seen in the scientific literature that follows.

Terror Management Theory

Solomon, Greenberg, and Pyszczynski (2004) are well-trained and rigorous social psychologists with a penchant for experimental research. Unlike many other social psychologists, however, they found much of the social psychology being done in research labs to be trivial and artificial. They felt that the fundamental questions of human existence were being ignored, particularly the relationship between the facts of the human condition and the cultural and psychological constructs that shape human social life. Reading the work of Becker proved profoundly and explosively enlightening for them.

These researchers, along with a number of like-minded scholars, set out to test Becker's ideas empirically. In 1986, they proposed a theory of self-esteem and social behaviour entitled terror management theory (TMT) that acts as a conceptual framework,

bringing together and making sense of existing literature surrounding self-esteem, and enabling research and clinical practice to become more meaningful and comprehensive (Solomon et al., 1991a). As Greenberg, Solomon, & Pyszczynski (1997) pointed out, TMT is considered the first theory to go beyond simply explaining *how* individuals carry out their defence of cherished beliefs regarding themselves and their world. This theory also answers the fundamental question of *why* people are motivated to maintain self-esteem and faith in their cultural worldview. It may appear strange that the primary tenets of TMT revolve around the idea of mortality. However, recent research designed to test hypotheses based on TMT have discovered that death concerns appear to affect a vast range of behaviours considered to be socially significant yet unrelated to the idea of mortality in any logical, semantic, or even superficial way (Pyszczynski, Greenberg, & Solomon, 1999). The details of this fascinating, complicated, and revolutionary theory will be described herein in order to provide a backdrop from which the present research will be displayed. In the same way that TMT has proven useful to the explanations of previous theories, within the present research it will once again facilitate a deeper conceptual understanding of relationships and careers for university women.

The Fundamentals of TMT

According to TMT theorists, human beings are similar to all other animals in that they are products of natural selection (Solomon, et al., 2004). They believe evolutionary adaptations occurred over time and assisted individual humans in being able to compete for resources successfully and, as a result, reproduce within their environment. Although from an evolutionary standpoint humans and animals appear quite similar, TMT researchers highlight one critical difference: human cognition. Unlike other animals,

humans are able to conceptualize reality in terms of cause and effect, they are able to envision future happenings, and they are able to reflect upon themselves (Solomon et al., 1991b). This personal reflection and self-awareness in particular is thought to be the most important component of human intelligence (Solomon et al., 2004). It is also one of the most anxiety-provoking attributes we have. According to Solomon et al. (2004), this self-awareness that other animals lack includes the realization that all living things, including humans, will ultimately die, and one's mortality cannot be predicted or controlled in any way. Greenberg et al. (1993) explain that it is the juxtaposition of the human instinct to self-preserve and the awareness of one's inevitable demise that brings about the possibility for paralyzing terror. According to TMT theory, humans are able to function with this terror and death anxiety because, over time, they have developed two death anxiety buffers: enhancement of self-esteem and the adherence to the cultural worldview (Solomon et al., 1991b).

The Need for Self-Esteem

Self-esteem, as conceptualized by proponents of TMT, is a universal need that involves the belief that one is valuable in a meaningful world (Solomon et al., 2004). Greenberg et al. (1986) explained that this need to feel valuable begins at birth when infants' needs are consistently fulfilled by caregivers who provide them with the ongoing sense of safety and security that works to minimize their anxiety. As children begin to develop, however, their parents' protection and care becomes more conditional. This causes the child to conclude that to be "good" means he or she will be protected but to be "bad" might mean annihilation. This connection between self-worth and protection from death engenders a desperate need for self-esteem (or heroism, as Becker would call it) in

order to function with minimal levels of anxiety. Along with this terrifying insight, children also become increasingly aware that parents are not always capable of protecting their children, or even themselves, from aversive experiences such as death (Greenberg et al.). Adherents of TMT believe that as this awareness becomes increasingly clear to children, they eventually shift their source of security and safety from their parents to their culture, from which they seek a new sense of comfort, value, and belonging (Solomon et al., 1991b).

Self-Esteem and the Anxiety Buffer Hypothesis

The anxiety buffer hypothesis was formulated in order to empirically test the assertion that human beings require self-esteem in order to minimize death anxiety (Solomon et al., 2004). The hypothesis states that if self-esteem buffers death anxiety, then individuals with higher self esteem (or those whose self-esteem was elevated through experimental manipulation) should have reduced death anxiety when exposed to threats (Solomon, et al.). Evidence to support this hypothesis has been found in numerous studies, all of which have answered some basic questions regarding self-esteem (e.g., Greenberg et al., 1993; Greenberg et al., 1992). The accumulating evidence also helped to make sense of existing literature in the area of self-esteem, and provided clinical practice with meaningful directions for future inquiry (Solomon et al., 1991a).

Greenberg et al. (1992) tested the anxiety buffer hypothesis and deemed this study to be the first direct evidence towards the anxiety buffering properties of self-esteem. They exposed half of their participants to a video displaying graphic, death-related content and the other half to a neutral video and then measured their anxiety levels. Before inducing the respective video threats, however, each participant was provided

with either positive or neutral feedback regarding a spurious personality measure meant to manipulate their self-esteem levels. The researchers found that the subjects whose self-esteem was experimentally increased by positive feedback had lower levels of anxiety in response to the death video than the subjects in the neutral feedback condition.

A similar study by Greenberg, et al. (1993) also found support for self-esteem as an anxiety buffer. Researchers found that enhancing self-esteem through positive feedback eliminated the need to deny vulnerability to a premature death. While this provided insight regarding individuals whose self-esteem was temporarily increased, researchers were also interested in whether the anxiety-buffering effects would be similar in regards to chronic, or trait self-esteem. Indeed, a similar pattern of results occurred, indicating that both manipulated and trait self-esteem appears to provide protection from anxiety regarding death.

The Mortality Salience Hypothesis

Along with the anxiety buffer hypothesis, a second hypothesis was developed to address the effects of making individuals' death salient in their minds. The mortality salience hypothesis states that if constructs such as self-esteem and cultural worldviews create beliefs about reality that diminish death anxiety, then having people contemplate their own death (mortality salience) should increase their need for the beliefs that serve to protect them (Solomon, et al., 2004). Mortality salience effects have been present in over 160 published studies in which reminders of death have been shown to influence and explain feelings and behaviours such as disgust about sex, creativity, guilt, prejudice, and aggression (Solomon et al.). These effects only occur in response to mortality and have not been found subsequent to thoughts of dental pain, public speaking, upcoming exams,

worries about life after college, or in response to a failure experience in a laboratory setting (McGregor et al., 1998). Although several studies showed that mortality salience increases self-esteem (e.g., Greenberg, Simon, Pyszczynski, Solomon, & Chatel, 1992; Taubman-Ben-Ari, Florian, & Mikulincer, 1999), the anxiety buffer hypothesis appears to have been predominantly tested in regards to individuals' desire to uphold their personal cultural worldviews.

For example, Rosenblatt, Greenberg, Solomon, Pyszczynski, and Lyon (1989) recruited municipal court judges and assessed their reactions to a transgressor of commonly upheld morals and values. First, the researchers made half the judges' mortality salient by asking them to respond to questions regarding their death while the other half did not receive this manipulation. Participants were then asked to set a bond for an alleged prostitution case. As suspected, the researchers found that the judges whose mortality was induced set higher bonds for the prostitute. This suggested that since moral principles serve as a cultural anxiety-buffer, subjects asked to consider their moral values and beliefs felt an increased need to defend these principles and punish the transgressor.

Since religion is a source of disagreement among people and has been associated with prejudice and hostility, Greenberg et al. (1990) tested whether mortality salience would increase participant's liking for members of their own religious group while decreasing liking for members from a different religious group. Using only Christian participants, the researchers found that inducing mortality salience caused participants to give more positive ratings to other Christians on an interpersonal judgement scale while giving more negative ratings to Jewish individuals. An additional study indicated that the rejection of others with differing views was particularly strong among participants found

to be more authoritarian in nature. Finally a third study did not focus on individuals' group membership but instead on their personal view of the culture. Results indicated that group status did not impact the American participants' evaluations of another individual but the individual's direct remarks about the United States had a large effect, particularly in the mortality salience condition. Greenberg et al. concluded that their studies provide evidence for the assertion that prejudice may be a result of an individual's underlying fears and anxiety which becomes more obvious under mortality salience conditions.

It is evident that pondering one's demise causes individuals to cling tightly to their cultural worldviews and criticize others who might disagree. McGregor et al. (1998) noted that previous studies have utilized only self-report evaluations while testing the mortality salience hypothesis which don't involve actual harm to another individual. In hopes of translating the mortality salience hypothesis to real-world behaviour, the researchers developed a study that may more accurately explain historical events of violence and war due to the intolerance of differences. First, they had conservative and liberal participants consider their own death or their next exam (control condition). They were then presented with an essay that was offensive towards either conservatives or liberals and were told that it was written in a previous session. Participants were then told to allocate a quantity of extremely spicy hot sauce in a cup that would be given to the author of the essay (who was said to be in a nearby room) with the knowledge that the author did not like spicy foods and would be required to consume the entire sample of sauce. The researchers found that the participants in the mortality salience conditions who read essays that were disparaging towards their own political stance, provided the author

with a significantly larger amount of hot sauce. It was concluded that the study provided behavioural evidence that aggression is a response to mortality salience induction.

The Anxiety Buffer and Mortality Salience Hypotheses

Harmon-Jones et al. (1997) noted that research has provided sufficient evidence supporting the anxiety buffering function of self-esteem. They claim that studies to date suggest that anxiety can be reduced by an increase in self-esteem. What is unclear, however, is whether the worldview defence that occurs after mortality salience can be reduced by self-esteem as well. In order to test the interaction between self-esteem and mortality salience on worldview defence, researchers combined the anxiety buffer and mortality salience hypotheses. More specifically, they manipulated participant's self-esteem by providing either positive or negative personality feedback. Participants were then asked to write about their own mortality (mortality salience induction) or a neutral topic and subsequently rate a person who either supported or threatened a component of their worldview (either positive or negative evaluations of the United States). Results indicated that besides reducing anxiety, elevated self-esteem also reduces the cultural worldview defence that occurs in response to mortality. Thus, there was less of a need for participants to defend their worldview since self-esteem was able to effectively protect them from concerns involving death.

A follow-up study by Arndt and Greenberg (1999) noted that Harmon-Jones et al. (1997) boosted their participants self-esteem based on personality and then threatened an unrelated, impersonal, aspect of their cultural worldview. Arndt and Greenberg manipulated self-esteem so that it was elevated based on participants' chosen college major. Participants then contemplated their mortality before they were faced with

negative comments about their college major. The researchers found that since the college major was threatened, and this was the source of the temporary self-esteem boost, it was no longer possible for self-esteem to function as a death-anxiety buffer. Thus, researchers concluded that self-esteem is not an effective anxiety buffer that can provide protection against a threat if the threat is related to topic in which self-esteem was temporarily boosted.

In sum, the TMT research thus far has offered substantial evidence and support for the assertion that both self-esteem and adherence to one's cultural worldview act as anxiety buffers. By testing both the anxiety buffer and mortality salience hypotheses, researchers are beginning to understand how it is that humans manage their existential terror.

Relationships: The Third Death Anxiety Buffer

Despite Becker's (1973) acknowledgement of the role of romance in death denial, the idea that romantic relationships serve as an additional anxiety buffer has not been exposed to extensive empirical investigation until recently in TMT literature. Researchers have begun to implement standard TMT methodologies in researching the function of relationships in death denial. Described below is the development and integration of close relationships within TMT literature. Beginning with the basic sexual act between humans and moving into research that examines the contextual placement of relationships in TMT, the current section provides relevant support for relationships as the third death anxiety buffer.

Sex as a Transcendental Function

As depicted in the writings of Becker, Rank, as well as numerous evolutionary works, the union between a man and woman brings forth countless advantages to both parties beyond simply procreating. In fact, these ideas are finally being tested empirically and the research is increasingly showing that even sexual intercourse, the most basic expression of intimacy, appears to be related to existential concerns, particularly the idea of death. Using terror management as their framework, Goldenberg, Pyszczynski, McCoy, Greenberg, & Solomon (1999) attempted to uncover why sex is often viewed with a sense of disgust, bringing forth feelings of shame and embarrassment for many people. These researchers asserted that this connection between sex and anxiety is derived from the anxiety related to the fear of death. They expanded on Rank's (1932) contention that prehistorically, humans became increasingly aware that they are in fact animals themselves because just like animals, sexual intercourse between humans generates offspring. In order to manage this terrifying awareness of their own animalistic and therefore finite nature, Goldenberg et al. maintained that humans created a culture, a collective symbolic reality in which humans were perceived to be more than simply another type of animal. One way this was accomplished was though instilling sexuality with a sense of higher importance, meaning, and value, which results in a higher sense of self-esteem. Thus, humans often relate sex with love in order to give the animalistic act of procreation a more spiritual or transcendental quality.

Goldenberg et al. (1999) tested this idea by having individuals who were either high or low on neuroticism levels undergo either a mortality salience condition or control condition. They expected individuals high in neuroticism to be less able to effectively

deal with death anxiety and therefore be more anxious about sex since they have not properly integrated the concept of sex into their cultural meaning system. Their results did indeed support this hypothesis as the participants with high neuroticism who were exposed to the mortality salience condition rated physical sexual acts to be less appealing than those with high neuroticism in the control condition. Conversely, participants with low-neuroticism in the mortality salience condition rated physical sexual acts to be more appealing than the participants with low neuroticism in the control group.

In a subsequent study, Goldenberg et al. (1999) found that simply thinking about the physicality of sex caused participants with high neuroticism to have increased death thoughts while those with low-neuroticism did not show any increase in death thought accessibility. In their final study, Goldenberg et al. found that reminding high neuroticism participants of love reduced the increase in death thought accessibility that was experienced by high neuroticism participants who did not receive the romantic reminder and simply thought of the physical act of sex. Taken together, these studies revealed that creating a symbolic meaning system surrounding the idea of romantic love causes sex to be less problematic and anxiety provoking because it appears to cause humans to feel that they transcend animals who somehow seem more vulnerable to death.

In 2002, Goldenberg, Cox, Pyszczynski, Greenberg, and Solomon conducted a succession of similar studies in which participants read essays describing the distinct nature of humans, emphasizing their elevation above all other animals. The results for each study were the same: the association between sex and death dissipated when participants were primed with thoughts regarding their distinct and superior nature in comparison to animals. However, when thoughts of physical sex were primed without

this cultural context to provide symbolic meaning, death thought accessibility was heightened. Once again it appears as though the sexual relationship between two people, if perceived within a symbolic cultural system, can actually decrease the amount of death thoughts that would occur if sex was understood in a strictly physical sense.

Looking at this phenomenon in a different way, Taubman-Ben-Ari (2004) investigated whether sexual behaviour, even risky sexual behaviour, would be preferred when one's mortality is primed. If the idea of sex is able to cause people to feel they somehow spiritually transcend their inherent animal (and therefore finite) nature, is it possible that they might desire sex even more when faced with thoughts of their own mortality? Results from this study showed that participants who underwent mortality salience reported more willingness than the control condition to engage in risky sexual behaviour. This relationship between mortality salience and willingness to engage in risky sexual activity was moderated by fear of intimacy. More specifically, the relationship was strongest among those with low levels of intimacy fear. This study added to the assertion that there is indeed a connection between sex and death. It appears, however, that there is more to the management of death anxiety than sexual behaviour alone.

Close Relationships and Self-Esteem

Along with sexual acts, self-esteem appears to be strongly related to close relationships and transcendence of death. For example, Bellavia (2002) found that people who often gain self-esteem from their romantic partners do so even more when undergoing mortality salience. However, the importance of self-esteem in terms of one's sex life may differ according to gender. Goldenberg et al. (2003) found that while men

considered a good sex life to be more important to their self-esteem than women did, women rated committed romantic relationships as more important to their self-esteem than men did. Perhaps the importance men place on their sex lives is simply more evidence in regards to the sex-related literature outlined thus far. But what about the desire for commitment in a romantic relationship that seems to be of greater importance to women? The current investigation will begin to narrow in on this idea of commitment in couples without focussing so closely on the sexual component of romantic relationships. While sex is undoubtedly a critical component in both relationships and death denial, perhaps Becker (1973) was correct in his contention that Western society has developed "the romantic solution" (p. 160) and therefore the elements besides sex in a relationship must be examined as well. As Florian et al. (2002) pointed out, the need to engage in a close relationship has many functions, the sublimation of sex being only one of them.

Romantic Relationships: The Contextual Placement within TMT

Before outlining the growing body of literature around romantic relationships and terror management theory, it is necessary to first describe where close relationships have been placed conceptually within the scientific community studying TMT. Although the importance of love relationships as a source of value and meaning was outlined by Greenberg et al. (1986) in the first literary discourse on TMT (Mikulincer et al., 2003), it is only recently that close relationships have been under examination in social psychological research as a third possible anxiety buffer (Mikulincer et al., 2004). Along with cultural worldview and self-esteem, a recent review of TMT literature that focussed on relationships concluded that "close relationships serve as a fundamental buffer of

existential anxieties" (Mikulincer et al., 2004, p. 301). According to Mikulincer et al. (2003), close relationships mitigate death anxiety by providing a feeling of symbolic permanence and transcendence because they involve procreation which provides the sense that one will live on in his or her offspring. Relationships also cause people to feel they belong to a social entity that transcends themselves as individuals, and they allow for the experience of passionate love in which one experiences feelings of ecstasy and being more alive (Mikulincer et al., 2004).

At first glance, it appears as though these benefits of close relationships are simply an interrelated component of the already established anxiety buffers known as one's cultural worldview and self-esteem. Several TMT researchers have addressed this issue, concluding that this is not the case. For example, Wisman and Koole (2003) investigated the worldview defence mechanism and affiliation with other people. Participants were presented with the dilemma of either sitting alone while defending their personal worldviews or sitting with a group of other people while attacking these worldviews. Results showed that participants who underwent mortality salience preferred to sit with a group, even when this meant they must attack their worldviews. This influential study is a powerful example of the fundamental human need to affiliate and be close to another person, particularly when faced with death concerns. The authors concluded that since the relationship buffer appeared to be more important than upholding a worldview, both defences must be considered to be separate as well as mutually related. Mikulincer et al.(2003) agreed with this conclusion and added that relationships are separate and distinct from both cultural worldview and self-esteem. As research in TMT evolves and one is better able to examine research retrospectively, it

appears as though the addition of close relationships as a third anxiety buffer is making increasingly more conceptual sense. As Mikulincer et al. point out, close relationships as an anxiety buffering mechanism is directly derived from the idea of a self-preservation instinct, one of the most fundamental assumptions of TMT.

While researchers have agreed that the human relationship must be considered a distinct third death anxiety buffer, they have also become increasingly aware of its relative importance in relation to the other two buffers. In fact, a consensus is forming that close relationships are perhaps the most powerful buffers available when faced with one's mortality. Mikulincer et al. (2003) stated that they believe striving for close relationships to be the primary defence mechanism in mitigating death anxiety. They claim that because it provides meaning, value, and the transcendence of death, the relationship buffer is so powerful that it can actually override the cultural worldview and self-esteem buffers. They go on to suggest that perhaps the sole reason one needs to rely on other defence mechanisms is because their close relationships somehow failed to buffer their anxiety. As was seen with the decline in divorce rates following the Oklahoma bombings, it appears as though when faced with one's own demise, what Hirschberger, Florian, and Mikulincer (2003) refer to as a "cognitive shift" occurs in which close relationships are suddenly viewed as incredibly important and less transient than any other worldly motivation (p. 684).

Support for the Relationship Anxiety Buffer

Studies are accumulating within the social psychological community that provide compelling evidence to sustain the relatively recent interest in the role of relationships with regards to TMT. Even relationships that are not considered a romantic partnership

are sought with greater intensity by individuals exposed to mortality salience conditions than those who are not (Taubman-Ben-Ari, Findler, & Mikulincer, 2002). Taubman-Ben-Ari et al. found that individuals in the mortality salience group were more willing to initiate social interactions, had lower ratings of personal rejection sensitivity (which inhibits relationship strivings), and gave more positive evaluations of their own interpersonal competence than the participants in the control condition. This study effectively illustrated how thoughts of death generate a desire to successfully connect with other human beings.

In studies specifically examining romantic relationships, results are equally promising. Two studies in particular illustrate, in a complementary way, how romantic relationships have an anxiety buffering function. In the first of a series of studies by Mikulincer, Florian, Birnbaum, and Mashlikovitz (2002), one group of participants were asked to imagine a separation from a close relationship partner while the other group was asked to imagine the death of a close relationship partner. A third group was asked to imagine a neutral theme (TV program). They found that thoughts surrounding the death of a partner provoked the highest number of death thoughts but that separation from a close relationship partner also led to increased death thoughts, even when there was no reference to a partner's death. In the second study, these researchers compared the thoughts of separation from a close relationship partner to the separation of an acquaintance and to academic failure. They found that separation from a relationship partner led to the highest number of death-thoughts and that thinking of a separation from a mere acquaintance did not lead to a significant increase in death thoughts. Finally, in their third study Mikulincer et al. found that as the length of separation from a romantic

partner (brief, long-term, or final) increased, so did the level of death thoughts. From these results they concluded that separation from a relationship partner leads people to be vulnerable and unprotected from the awareness of death. Furthermore, the authors pointed out that since death thoughts became heightened even when no mention of the partner's death was made, it can be concluded that the effects of the study cannot be attributed to the participant's exposure to themes of death. By including academic failure in the methodology they were also able to refute the possibility that the effects seen subsequent to separation reminders were due to the arousal of global aversive feelings.

In the same way that Mikulincer et al. (2002) found that death thoughts were heightened due to romantic relationship separation, Florian et al. (2002) found that having participants imagine problems in their romantically committed relationships led them to have higher death thought accessibility than those participants who simply thought of academic problems. In their first study, Mikulincer et al. exposed participants to a mortality salience condition, physical pain condition, or neutral condition, and found that inducing mortality salience caused participants to rate their level of commitment as significantly higher. Next they found that having participants think about their committed romantic relationship (and therefore strengthening the death anxiety buffer), people were less likely to rely on their worldview defence mechanism subsequent to their exposure to mortality salience. Finally, they tested the hypothesis that states if a psychological mechanism (such as commitment) protects people from death awareness, threatening this mechanism will heighten death-related thoughts. Once again, the importance of romantic relationships was made clear as the results showed that the participants who thought about relationships problems had significantly higher death thought accessibility than

people who simply thought of a neutral issue or academic problems. These two studies were strong contributors to Mikulincer et al's (2003) conclusion that close relationships do indeed serve as the third fundamental anxiety buffer.

While no one can deny the importance, and even necessity of romantic relationships to the human race, the degree to which one's mortality motivates individuals to find and maintain a romantic partner is somewhat less clear. In order to answer this question, researchers set out to determine whether relationship strivings increase under mortality salience conditions to the point that other goals and important factors are sacrificed. Hirschberger, Florian, and Mikulincer (2002) examined what individuals were willing to compromise as they strive to maintain a relationship under mortality salience conditions. Results from this study found that when mortality salience was induced, participants were more willing to compromise what they previously described as their standards when selecting an ideal partner than those in the neutral or physical pain condition. Interestingly, the individuals with high levels of self-esteem, who were initially less willing to compromise their criteria for mate selection, showed the most dramatic effects under mortality salience as there was a significant drop in their standards for long-term partner suitability. This study was highly effective in determining the importance people place on relationships when faced with their own mortality. It illustrated that finding a relationship becomes so important that one's previously held standards for mate selection are significantly lowered.

In a similar study by Hirschberger et al. (2003), participants sacrificed their initial standards once again when faced with death thoughts. When mortality was not salient, strivings for intimacy were highest when participants thought of being praised by their

partner. Intimacy strivings were second highest when participants considered a partner's complaints. Finally, intimacy strivings were the lowest for those who thought of being criticized by their partner. This pattern was completely altered, however, for the participants in the mortality salience condition. For these individuals, the level of intimacy strivings was the same for the praise, complaint, and criticism conditions. The researchers concluded that thoughts of death motivated people to attain closeness in a relationship despite being chastised by their romantic partner. It seems, claimed the authors, that the cost of losing a mate in the face of mortality was too high for these individuals, even when their sense of self-esteem and personal worldview were at stake.

The Role of Attachment in the Relationship Buffer

A discussion of romantic relationships within a TMT framework is not complete without mention of its relation to attachment theory, which has become one of the primary theoretical frameworks in studying intimate relationships between adults (Fraley & Shaver, 2000). Bowlby's (1969, 1973, 1980) three-part series on attachment theory is particularly relevant to TMT as he stresses the effectiveness of maintaining proximity to an attachment figure when exposed to stressful events. Bowlby considered this proximity seeking behaviour to be adaptive when the attachment figure (usually the caregiver) responds to a child's attempt at closeness with reliable and consistent availability. Bowlby's (1973) theory states that when the child is confident of this availability and protection, he or she will experience less fear than a child who is uncertain of the accessibility of their caregiver. As a result, infants characterised as "secure" will seek proximity to their caretaker when exposed to stressful occurrences while insecure infants tend to be more reluctant in this help-seeking behaviour (Mikulincer & Florian, 1998).

Bowlby (1973) described the child's confidence in the caregiver's availability as an entity that is built upon from infancy to adolescence, leading to a relatively stable attachment style throughout the lifespan.

Attachment theory, particularly its relevance to adulthood, has significant implications for TMT research. In a highly influential article, Hazan & Shaver (1987) provided substantial evidence for Bowlby's theory and found that the prevalence of the three primary attachment styles (secure, avoidant, and anxious/ambivalent) remain roughly consistent from infancy to adulthood. They also found support for their prediction that adults would experience their love relationships differently depending on their personal attachment style during infancy. More specifically, secure individuals were characterized by trust and positive emotions, avoidant individuals by lack of trust and a fear of intimacy, and anxious/ambivalent individuals as preoccupied yet wanting desperately to join together with another person. Since their pivotal article, research studies have accumulated to support an adult attachment theory. Feeny and Noller (1990) discovered that secure individuals reported family relationships that were positive and displayed trusting attitudes towards people. In contrast, anxious/ambivalent subjects described a lack of support from their parents and dependency behaviours in adult relationships. Avoidant subjects were characterized by mistrusting and distancing behaviours in regards to relationships with others (Feeny & Noller).

Differences in Attachment Style and Death Anxiety

When examining the role of relationships as a third death anxiety buffer, TMT researchers were inevitably led to examine the role of attachment in death denial. Mikulincer, Florian, and Tolmacz (1990) investigated the relationship between

attachment style and death anxiety. They discovered that individuals with a secure attachment profile experienced lower levels of death anxiety than individuals characterized as insecurely attached. The researchers suggested that the results may reflect a secure individual's perceptions of supportive parental figures, confidence in the world, and ability to effectively manage negative feelings.

Florian and Mikulincer (1998) incorporated Lifton's (1979) construct of symbolic immortality in TMT relationship research in order to determine if it moderated the relationship between a death salience manipulation and the protection of one's cultural worldviews. Lifton described symbolic immortality as an anticipatory, adaptive response towards the inevitability of death that assists humans in dealing with their unsettling existence characterised by both power and finitude. Through acts such as procreation, creativity, transcendence, and experiential and religious attainments, Lifton believed that individuals are able to attain symbolic immortality and, as a result, will experience less terror regarding their inevitable death (Florian and Mikulincer). Using Lifton's theory, in conjunction with a TMT framework, Florian and Mikulincer found an inverse relationship between fear of death and symbolic immortality for secure individuals, suggesting an innate protection from death anxiety due to the development of a secure attachment base. Individuals characterized by an avoidant attachment style had lower levels of both symbolic immortality and fear of death, perhaps, reflected the researchers, due to their tendency to avoid direct or symbolic confrontations with painful experiences. Finally, those with anxious-ambivalent profiles had high levels of symbolic immortality as well as high levels of fear of death. The authors concluded that perhaps their

overpowering insecurities render symbolic immortality ineffective in reducing death anxiety.

In another influential study, Mikulincer and Florian (2000) showed that individual's reactions to death reminders depend on their particular attachment style. They found that people from various attachment styles appear to react differently to death reminders. Results indicated that secure individuals search for symbolic immortality and desire intimacy after being exposed to death reminders while insecure individuals search for less personal buffers such as their cultural worldview. Similar results were found in a study by Taubman-Ben-Ari et al. (2002) when mortality salience inductions led to more motivation to initiate a social interaction, lower levels of rejection sensitivity, and more positive evaluations of personal competence within interpersonal domains. These effects were found primarily for individuals who scored lower on attachment anxiety and avoidance.

Mikulincer, Florian, Birnbaum, & Mashlikovitz (2002) were interested in whether attachment style moderated the relationship between thoughts of separation from a romantic relationship partner and death thought accessibility. It was no surprise, given the profile of anxiously attached individuals, that these persons appeared to have the highest death thought accessibility when a long-term or final separation from a partner was threatened. The researchers concluded that threats of separation may be particularly effective in provoking death thoughts among individuals who have difficulty creating and maintaining close romantic relationships, such as those characterised by an anxious attachment style.

Taken together, these studies suggest that attachment style is an essential variable in the investigation of relationships as a third death anxiety buffer. An individual's reaction to mortality salience effects appears to be significantly impacted by their personal attachment style that has been established and built upon since infancy. Clearly, a secure attachment is considered the most beneficial when dealing with existential anxiety as these individuals were found to have less death thought accessibility, higher symbolic immortality, and stronger strivings towards intimacy when faced with death. Those with an insecure attachment style were found to rely more heavily on anxiety buffers of a less intimate nature such as cultural worldview defenses. Finally, those characterized as having attachment anxiety appeared to be the most vulnerable to death thought accessibility after thinking of a separation from a relationship partner.

The Role of Career in Women's Relationship Strivings

In 2005, Wisman and Goldenberg made the startling discovery that subsequent to mortality salience manipulations, men had a significantly stronger desire for offspring whereas women did not. Based on previous literature, which indicated an association between having children and gaining both symbolic and literal immortality, the authors were interested in whether procreation served as yet another defense against existential death concerns. What they found, however, was that this was only the case if having children does not conflict with another worldview that assists in managing death anxiety. For women, the responsibilities of childcare are often more demanding than for their male counterparts. Thus, having offspring often poses a substantial threat to women's career strivings, an important construct from which women derive existential meaning and purpose from their cultural worldview (Wisman & Goldenberg). The current study

looks not at the topic of procreation, but instead builds on this insight and focuses solely on women's struggle to manage relationships and careers, both of which are thought to buffer existential anxiety, particularly during emerging adulthood.

Emerging Adulthood: Exploring Love and Work

In his revolutionary conceptualization of stages in human development, Erik Erickson (1980) described identity formation as a critical developmental milestone one usually meets in adolescence before true intimacy is sought and established in adulthood. Years later, Arnett (2000) built upon the work of Erikson, and others, and distinguished a developmental period in between adolescence and adulthood (ages 18 – 25) where identity is still being developed, and called it emerging adulthood. According to Arnett, the immense changes that have taken place in the last century within industrialized societies have actually altered the very nature of human development. In today's society, both marriage and parenthood occur much later in life allowing individuals in their late teens and early twenties to explore a vast range of possibilities, particularly with regards to love and work (Arnett).

During emerging adulthood, love is explored differently than it was in adolescence as individuals begin to seek a deeper, more long-term form of intimacy (Arnett, 2000). Academic achievement also becomes increasingly important during emerging adulthood (Hamilton & Hamilton, 2006). In fact, Arnett believed that academic and career pursuits are considered a form of identity exploration as individuals begin to determine their personal strengths and seek careers that reflect their interests and personality. Both romantic relationships and work experiences involve discouragement and disappointment yet Arnett believes that acquiring a broad range of experiences is an

important step for emerging adults who are later expected to take on the somewhat limiting role of adulthood.

Career and Relationships: A Female Perspective

For women specifically, the effort to balance both career and relationships during emerging adulthood is a relatively recent social phenomenon. The evolution of women in the workforce has changed drastically over the past century and this change has become even more pronounced and dramatic in only a few decades. In the 1960's women were either homemakers who could retain their feminine role or they were career women who were viewed as sexless (Alejano-Steele, 1997). The option to balance both work and a family life was presented to women in the 1970's and by the 1980's, dual-career families had became more common (Alejano-Steele). In the 1980's as well as the 1990's, women became increasingly overloaded and overworked as they attempted to successfully combine both career and relationships (Alegano-Steele).

According to Gilbert (2005), the primary difference between women in the 1970's and women today is that a significantly higher number of women today are pursuing graduate school and receiving degrees in medicine or law. Women are also becoming increasingly cautious regarding their dependence on men as they recognize the likelihood that they will become single in the future and will need to be self-sufficient (Kaltreider, 1997). In conjunction with these social changes, more women are choosing to start a family as well as remain employed (Dingle, 2002). Thus, over the years, women have made substantial changes to pursue careers, become self-sufficient, and subsequently balance a family life and a job. These changes reflect the trend in emerging adulthood in

which identity formation is prolonged while at the same time intimacy and connectedness is sought.

The Struggle to "Have it All"

For women in the 21st century living in industrialized countries, the years in one's 20's and 30's are often spent considering countless possibilities, not limitations (Kaltreider, 1997). Despite the increase in opportunities for women in today's society, professional women continue to struggle as they attempt to balance their career and family (Alejano-Steel, 1997). Women who pursue advanced education in order to establish themselves in professional careers are less likely to get married and become mothers (Dingle, 2002). Professional women who do decide to marry have an increased chance of a problematic relationship if their career role and professional prestige become more salient (Kaltreider, Gracie, & Sirulnick, 1997). In response to this "double edged sword" many professional women choose to remain single or postpone marriage in order to establish a successful career (Alejano-Steele). For single women, then, it appears that career aspirations can sometimes serve as a temporary source of meaning and purpose as they prepare for a future life involving the responsibilities of family, marriage, and children.

Rationale for the Study and Hypotheses

A review of the relevant literature indicates that romantic relationships are a significant contributor to death denial. From Becker's discussion of the romantic solution to numerous empirical studies demonstrating the death anxiety buffering function of relationships, there is little doubt regarding the transcendental nature of love. Within the purview of TMT, all this rests on a backdrop of existentialism, a system emphasizing

subjectivity, responsibility, and freedom to make sense of a meaningless world that ultimately ends in death.

For women, however, this personal freedom to create existential meaning has been severely constrained by the limited options permitted to them. For decades, it has simply been assumed that relationship commitment has a stronger anxiety buffering effect for women because they were characterised by their desire for interpersonal connectedness while men strive for individuation (e.g., Florian, et al., 2002). What has not been examined, and perhaps, what *could not* have been examined until the 21st century, is the psychological effect of women not having a romantic relationship in a context in which they are free to pursue other personal life goals. Can it be that the anticipation of career success plays an anxiety-buffering role for these women in the same way as romantic relationships?

Today many women, particularly those in emerging adulthood, choose to remain single and delay a serious relationship in order to be self-sufficient, independent, and find a personal sense of meaning. For other women, a life partner has yet to be found or is simply not a viable option due to unique constraints (e.g. parental influence, limited social interaction, personal inhibitions, etc.). In situations in which a close relationship is not present to buffer death thought accessibility, TMT researchers believe individuals must rely on other defence mechanisms (Mikulincer et al., 2003). Given the emphasis on love and work in the emerging adulthood literature, it is expected that, for university women, those without a romantic relationship will turn to their career aspirations in reducing their death anxiety and enhancing symbolic immortality.

Thus, the purpose of the present study is to investigate the anxiety buffering functions of relationships and careers for both single and committed women in a university setting. Three primary hypotheses, based on relevant literature, were proposed for this study:

1. Among female university students, committed women would have higher levels of death thought accessibility than single women when the idea of a relationship is threatened.

2. Single women would have higher death thought accessibility than committed women when career aspirations are threatened.

3. The association between a relationship threat and death thought accessibility would be heightened for women who have higher levels of romantic anxiety attachment.

CHAPTER III

METHOD

This chapter describes the inclusionary and exclusionary criteria for participation, recruitment strategies, and demographic information regarding the students who participated in the study. The measures that were administered and the procedures that were followed are also described.

Participants

Study Criteria

All the participants in this study were women. In order to participate in this study, three specific criteria had to be met: (a) the participant was attending university (i.e., enrolled in at least one class) at the time of data collection (b) she had been single for a minimum of 6 months or in a committed relationship for a minimum of 6 months, and (c) she had been speaking the English language since she was at least 10 years old. The first criterion regarding university attendance was established in order to ensure that each woman was currently pursuing an educational or career goal. Since the research design required that approximately half of the sample be in a committed romantic relationship while the other half was not, the second criterion ensured the recruitment of a minimum number of women in each status. Participants that had been exclusively dating one individual for at least six months were categorized as "committed" while those who had dated more than one individual or had not dated at all during the past six months were categorized as "single." Participants were required to have used the English language since the age of 10 so that the death thought accessibility of each participant could be

accurately measured by the word completion task which served as the primary dependent variable in the study.

Recruitment Strategies

Women attending university were recruited from the University of Alberta in Edmonton. Two recruitment strategies were employed in order to inform women about the study and encourage them to participate. First, numerous notices advertising a study for single and committed women (and the inclusionary criteria for participation described above) were placed around the university campus. The notices stated that each participant would receive $10.00 for their contribution to the study. Also included on these notices was the e-mail of a research assistant who volunteered to assist with the study. The primary researcher was not contacted directly by each participant in order to maintain a blind condition in which the researcher would not know whether the participants were single or committed once data collection commenced. In this way, the primary researcher could estimate the number of single and committed women who participated while maintaining objectivity during testing. Thus, each participant contacted the research assistant who answered any questions regarding the inclusionary criteria, coded the individual as either A or B, and forwarded her contact information to the primary researcher who contacted each of the participants, e-mailed them a description of the study, and arranged the testing sessions.

A secondary recruitment strategy was also employed in which the primary researcher contacted university professors and requested to speak to their classes regarding the study during the last few minutes of class. Individuals who met the inclusionary criteria were invited to stay in their seats after class, read the study

description, and decide whether they wished to participate. In order to remain blind during this recruitment strategy, the researcher asked that each participant refrain from exposing their committed or single status during testing.

As data collection neared its completion, the researcher began to pass out a form labelled "single" and a form labelled "committed" and had each participant write an alias on the form that corresponded to their status while the researcher exited the room. Since the number of participants required for each of the six conditions was becoming increasingly low and the number of interested participants remained high, this strategy allowed the researcher to ensure that for both single and committed women, each of the three levels of the independent variable (type of relationship threat) had approximately 30 participants.

Participant Profile

A total of 199 female participants recruited from the University of Alberta student population participated in this study, ranging in age from 18 to 55 years ($M = 25.57$). Among the 199 participants, 94 (47.24%) were single and 105 (52.76%) were in committed romantic relationships. The predominant ethnic backgrounds of participants were Caucasian/ European (75.38%), Chinese (10.55%) and South Asian (5.03%). Data from 210 participants were collected but data from eleven participants were discarded due to missing data, blatant inconsistencies within the demographic information, or violation of the language criteria.

Measures

The research measures were presented to each participant in the form of a package that included 1) measures of current emotional status that may have impacted the

dependent variable (depression and self-esteem), 2) one of the three relationship threats (the independent variable), 3) a death word completion task (the dependent variable), 4) a measure of global affect (a possible mediator), 5) a measure of romantic attachment (possible moderator), and 6) a demographic information form. Included with the demographic form was a series of personal questions regarding career and relationships (which confirmed relationship status). A description of each measure is provided in detail below.

Depression

The Center for Epidemiologic Studies Depression Scale (*CES-D* Scale; Radloff, 1977) is a brief self-report scale designed to identify depressive symptomatology within the general population (See Appendix A). The 20-items in this measure reflect symptoms associated with depression such as depressed mood, psychomotor retardation, loss of appetite, sleep disturbance, and feelings of guilt, worthlessness, helplessness, and hopelessness. Participants are asked to read each item and indicate the frequency with which they have felt that way during the past week. Possible responses include "Rarely or none of the time (less than 1 day)," "Some or a little of the time (1-2 days)," "Occasionally or a moderate amount of time (3-4 days)" or "Most or all of the time (5-7 days)." Among the various items on this measure, four of the sentences are worded in the positive direction. The possible range of scores is 0 to 60 with higher scores suggesting more depressive symptoms. According to Peden, Hall, Rayens, and Beebe (2000), a score of 16 and above on this measure suggests high levels of depressive symptoms, as this score has been found to correspond to the 80th percentile in community samples (Comstock & Helsing, 1976).

According to Radloff (1977), measures of internal consistency (coefficient alpha and the Spearman-Brown, split-halves method) are considered to be high for the CES-D scale in the general population (approximately .85). The fairest estimate of test-retest reliability for this measure (r = .54) was considered acceptable and was based on a sample of individuals in which no negative life events had occurred in the year prior to the initial interview and the time period between interviews. In regards to discriminant validity, the CES-D was reported to discriminate well between a psychiatric inpatient sample and a general population sample (Radloff). It was also reported to have excellent concurrent validity with clinical and self-report criteria and substantial evidence suggesting construct validity (Radloff). This measure was deemed suitable for English speaking Americans of both sexes, and individuals from a wide range of age and socioeconomic status (Radloff).

Self-Esteem

Participants also completed the Self-Esteem Scale (SES; Rosenberg, 1965) which is widely used as a unidimensional measure of self-esteem (Blascovich & Tomaka, 1991) (See Appendix B). This measure consists of 10 items that require the respondents to rate their thoughts and feelings about the self. It involves a four-point response format in which the participant chooses either, "strongly agree," "agree," "disagree," or "strongly disagree" in response to an item. Fleming and Courtney (1984) reported a Cronbach alpha of .88. for the SES. They also determined test-retest reliability to be .82 for 289 male and female subjects within a 1-week interval. Blascovich and Tomaka documented the convergent validity of the SES by correlating it with other self-esteem related constructs such as the Lerner Self-Esteem Scale (.72). Furthermore, Fleming and

Courtney found negative relationships between this measure and concepts associated with low self-regard such as anxiety (.-64), depression (.-54), and anomie (.-43). The Self-Esteem Scale has also demonstrated considerable discriminant validity and is considered the standard when new measures of self-esteem or other similar constructs are evaluated (Blascovich & Tomaka).

Relationship, Career, or Control Threat

Both single and romantically committed participants were randomly assigned to one of three types of problems to consider including relationships (See Appendix C), careers (See Appendix D), or television programs (See Appendix E). Using similar wording as Mikulincer et al, (2002), the relationship version of the question stated, "Imagine a final separation from a close romantic relationship partner. Describe the emotions and thoughts that this situation arouses in you. How do you feel about this situation?" The career version of the question stated, "Imagine never being able to pursue the career of your choice. Describe the emotions and thoughts that this situation arouses in you. How do you feel about this situation?" Finally, the control version of the question stated, "Imagine a favourite television show being cancelled. Describe the emotions and thoughts that this situation arouses in you. How do you feel about this situation?" Since the latter threat served as a control, it was not expected to heighten death thought accessibility. Each participant was asked to write their response to their particular question in the space provided.

Death Thought Accessibility

After they answered the question associated with one of the three threats, participants were asked to fill out a word completion task designed by Schimel, Hayes,

Williams, and Jahrig (in press) that is similar to that of Greenberg, Pyszczynski, Solomon, Simon, and Breus (1994) and designed to tap death theme accessibility (See Appendix F). Subjects were instructed to complete 20 word fragments that were missing two letters. Six out of the 20 words are considered potential death-related words and the remaining 14 are neutral words. For example, the participants would see the letters *C O F F _ _* and complete the word with either *coffee* (neutral) or *coffin* (death related). The dependent variable in this task was quantitative and was measured by the number of death related words completed, ranging from 0 to 6. The death related words included buried, dead, grave, killed, skull, and coffin.

Global Affect

A test of mediation is commonly employed in TMT in order to address the undesired possibility that threatening relationships causes global aversive feelings, which, in turn affects death thought accessibility. This would indicate that a direct relationship MAY not exist between the independent and dependent variable. The current study had participants briefly rate their affect shortly after completing the relationship threat and word completion task using the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). The PANAS is comprised of two 10-item scales (See Appendix G). One scale consists of 10 positive affect words and the other of 10 negative affect words. The positive and negative words are mixed up at random and then presented to the participant in written format. Participants can be asked to what extent they feel the emotion in the present moment, today, the past few days, the past few weeks, this year, or in general. A separate response is made for each individual word in written format on a 5-point Likert scale in which scores range from 1 to 5 and are labelled *very slightly or not*

at all, *a little*, *moderately*, *quite a bit*, and *extremely*, respectively. A sum of the positive affect scores and the negative affect scores are determined and in both cases, scores will range from 10 to 50. Examples of positive affect words are *proud* and *inspired* and negative affect words are *afraid* and *guilty*.

This study asked participants to indicate how they feel in the present moment which yields a Cronbach's Alpha of .89 and .85 for positive and negative affect, respectively (Watson, et al., 1988). This measure has also been found to have excellent convergent and discriminant validity. Thus, the positive and negative scales are considered to be a reliable, valid, and efficient measure that can be used to measure both positive and negative affect (Watson, et al.).

Attachment

In order to measure romantic attachment, participants were given the 36 item Experiences in Close Relationships Scale (ECR; Brennan, Clark, & Shaver, 1998) in order to determine each participant's romantic attachment (See Appendix H). Within this measure, eighteen items tap attachment anxiety and 18 tap attachment avoidance. Instructions for this measure asked participants to consider how they generally experience relationships, not just in what is happening in a current relationship. According Brennan, et al., this measure was developed after the authors collected numerous self-report attachment measures, created a pool of 482 items, and finally collapsed these items into 60 attachment-related constructs. After factor-analyzing the 60 subscales, they produced two almost completely independent factors that reflected the avoidance and anxiety dimensions that were initially discovered by Ainsworth and her colleagues (Ainsworth, Blehar, Waters, & Wall, 1978). Since its development in 1998, the ECR has been used in

hundreds of studies with consistently high reliability (alpha coefficients are approximately .90 while test-retest range from .50 to .75) (Mikulincer & Shaver, 2006). Furthermore, according to Mikulincer & Shaver, the correlation between the Avoidance and Anxiety dimensions are often close to zero and evidence of validity of the ECR has been demonstrated within numerous studies. Brennan et al. found strong correlations between their avoidance scale and several other scales that measure avoidance and discomfort with closeness. Similarly, their anxiety scale was found to correlate highly with scales measuring anxiety, fear of rejections, jealousy, and preoccupation with attachment.

The placement of this measure within the study was of particular importance and deserves additional attention. In a similar study, Mikulincer et al. (2002) noted that since the ECR was given to participants subsequent to the experimental manipulation, their responses may have been impacted by their death thought accessibility. However, they believe that placing the ECR before the manipulations would have led to a significantly bigger predicament. More specifically, Mikulincer et al. asserted that if attachment had been measured prior to the experimental threat (separation from a partner), their responses on the ECR might have induced specific thoughts of separation and activated personal attachment schemas that effected the responses on the threat measure. The current study also recognizes this problem and, like Mikulincer et al., we chose to place the measure after the experimental manipulation.

Demographic, Career, and Relationship Information

Demographic information was collected at the end of the questionnaire and asked participants questions regarding their age, ethnicity, sexual orientation, academic level

and program, relationships, and career goals (See Appendix I). Based on a 7-point Likert scale, participants were also asked to rate the importance of a committed relationship and career goals, as well as the degree to which they feel they are working towards their career goals and how clear they felt these goals were to them. Participants were also asked to state whether career or romantic relationships were more important to them in their life right now and were asked to choose only one. Finally, participants indicated whether they were currently in a committed romantic relationship (which determined their committed or single status), if they were married, the length of their particular status, how committed they were to their current partner if they had one (on a 7 point Likert scale), the sex of their partner, and whether they were currently living with their partner. The final question asked participants whether their current relationship status (single or committed) was the same as it was upon signing up for the status to ensure that a breakup or separation did not occur subsequent to their decision to participate.

Ethical Practices

An ethics proposal was submitted to the Department of Educational Psychology Research and Ethics Committee at the University of Alberta for review. This proposal included information regarding the nature, length, and purpose of the study, data collection procedures, copies of instruments and consent/debrief forms, and procedures for providing privacy, anonymity, and confidentiality for all participants involved.

Procedure

Details involving recruitment strategies were outlined earlier. The number of women in each testing group varied from approximately 2 to 40 but usually involved groups of 5 or 6 women. After the researcher reviewed the necessary criteria for

participation, the $10.00 reward for participating, and their freedom to withdraw from the study at any time, interested and eligible participants read the a description of the study (see Appendix J) and were provided with a consent form (see Appendix K). After the researcher collected the signed consent forms, participants were provided with the questionnaire and were instructed to complete the measures in order without skipping any pages. They were also instructed to try their best to complete every item and to raise their hand if they had any questions during the study. Upon completing their questionnaire, each participant handed it in to the researcher and was provided with $10.00 and a debriefing form (see Appendix L). Since the testing environments varied for those individuals who were approached in their classroom, the researcher took careful precautions and ensured that the room was free from distraction and remained quiet throughout the study. After a sufficient number of questionnaires were completed, the researcher entered the data and scored each measure accordingly.

CHAPTER IV

RESULTS

Preliminary Analyses

Prior to all analyses, an examination for outliers on the primary measures was undertaken. Participants whose scores exceeded one standard deviation from the second highest score were truncated to 3 standard deviations from the mean. This included one participant with a high depression score, and one participant with both a low self-esteem and high negative affect score. Skewness (the asymmetry of a distribution) and kurtosis (clustering of scores in the tails of a distribution) were also examined. Several measures had values for skewness and kurtosis that far exceeded the value of 0 that represents a normal distribution. In order to reduce the impact of outliers even further and correct for distributional problems, transformations were conducted. A square root transformation was performed on the truncated data for measures of depression (skewness = 0.65, kurtosis = -0.14), death thought accessibility (skewness = 0.33, kurtosis = 0.05), positive affect (skewness = 0.03, kurtosis = -0.36), negative affect (skewness = 1.60, kurtosis = 2.19), attachment avoidance (skewness = 0.61, kurtosis = -0.47), and attachment anxiety (skewness = 0.24, kurtosis = -0.53). Self-esteem (skewness = -0.42, kurtosis = -0.39) was similarly transformed, but following Field (2005), the scores first were reversed because the skew was negative. With the exception of death thought accessibility (DTA), the descriptive analyses were reported using the non-transformed data. The primary analyses utilized the transformed data.

Descriptive Analyses

Single vs. Committed on Academic and Relationship Factors

Table 1 presents the proportions of single and committed women at various levels of academic standing. Table 1 also presents the frequency with which women espouse either career or relationships as the current priority in their lives. Of the 94 single women, 62 (65.96%) were currently enrolled at the undergraduate level, 21 (22.34%) at the Masters level, and 11 (11.70%) at the Ph.D. level. Of the 105 committed women, 97 (92.38%) were enrolled at the undergraduate level, 8 (7.62%) at the Masters level, and none at the Ph.D. level. There was a statistically significant association between relationship status and academic level $\chi^2(2, N = 199) = 23.40, p < 001$. Women at a more advanced level academically were more likely to be single than in committed relationships. An independent samples t-test was also conducted in order to determine if age was an influential factor in regards to romantic status and revealed no statistically significant difference in age between single ($M = 46.2$) and committed women ($M = 53.6$), $t\ (197) = -.34$, $p = .74$.

Participants were asked to choose whether a career or a relationship was more important in their life right now. One participant from the committed group did not respond to this question. Among the 94 single women, 75 (79.79%) women chose career while 19 (20.21%) women chose a romantic relationship. Among the 104 women in committed romantic relationships, 45 women (43.27%) chose career while 59 (56.73%) women chose a romantic relationship. The tendency for single women to place more importance on their career and committed women to find a romantic relationship to be more important was found to be statistically significant, $\chi^2(2, N = 198) = 27.55, p = 001$.

Table 1

Academic Level and Current Lifestyle Priority for Single and Committed Women

Academic Level	*n*	%
Single ($n = 94$)		
Undergraduate level	62	65.96
Masters level	21	22.34
Ph.D. level	11	11.70
Committed ($n = 105$)		
Undergraduate level	97	92.38
Masters level	8	7.62
Ph.D. level	0	0.00
Current Priority		
Single ($n = 94$)		
Career	75	79.79
Relationship	19	20.21
Committed ($n = 104$)		
Career	45	43.27
Relationship	59	56.73

Single vs. Committed on Measures of Depression, Self-Esteem, and Affect

All participants completed measures of depression, self-esteem, positive affect, and negative affect. As illustrated in Table 2, the scores of single women and those in committed romantic relationships were similar on all measures. Independent t-tests did not reveal any statistically significant differences between single and committed women on any of the measures. Thus, the overall mean score for each of the measures will be referred to below.

The mean score for depression was 13.36 (*SD* = 7.94). The minimum score on this measure is 0 and the maximum score is 60. Higher scores represent higher levels of depression and a score of 16 and above indicates high levels of depressive symptoms (Peden et al, 2000). The mean score for this sample was similar to that of Peden et al.'s sample of 246 women from the University of Kentucky; their mean age was 19.3 years (*SD* = 1.4) and the mean CES-D score was 14.2 (*SD* = 10.0) suggesting the current sample was comparable to the University of Kentucky sample for depression.

Scores on the self-esteem measure have a possible range of 0 to 30, higher scores representing higher self-esteem. The mean score for self-esteem was 22.50 (*SD* = 4.81). Croghan et al. (2006) used the same scale with 1456 U.S. undergraduates. The mean score for the American sample was 20.0 (*SD* = 4.7), suggesting that self-esteem scores for the participants in the current study were higher than those for the U.S. undergraduate sample.

Positive and negative affect scores each range from 10 to 50. The mean score for positive affect in the current sample was 30.88 (*SD* = 7.76) and for negative affect was 14.62 (*SD* = 5.20). Normative data from a sample of adult females in a non-clinical

sample produced mean scores for Positive and Negative Affect of 30.62 (*SD* = 7.89) and 16.68 (*SD* = 6.37), respectively (Crawford & Henry, 2004). Thus, scores from the current sample resemble those from the normative data for this measure.

Death Thought Accessibility scores range from a possible 0 to 6 on the death tapping measure. The mean score for single women in the current study was 1.12 (*SD* = 0.52) while committed women had a mean score of 1.19 (*SD* = 0.52). When categorized by type of threat rather than by relationship status, participants from the career threat group had a mean score of 1.05 (*SD* = 0.58), participants from the relationship threat group had a mean score of 1.25 (*SD* = 0.49) and participants from the control threat group had a mean score of 1.19 (*SD* = 0.47). Table 3 reveals the mean scores for both single and committed women divided into threat groups. In a study by Mikulincer et al. (2002), a similar death tapping measure was used for four different threat groups. Participants in a control threat condition had a death thought accessibility mean score of 0.53 (*SD* = 0.74) while those who asked to imagine a brief separation had a mean score of 0.59 (*SD* = 0.82). Participants who were asked to imagine a long-term separation from their partner had a death thought accessibility mean score of 1.10 (*SD* = 0.86). Finally, participants who were asked to imagine a final separation had mean score of 1.72 (*SD* = 1.20). This study manifested a more constricted range of scores than did a comparable study by Mikulincer et al, indicating, on average, somewhat higher levels of DTA.

Table 2

Mean Scores for Depression, Self-esteem, and Affect for Single and Committed Women

Measures		*M*	*SD*
Depression			
	Single	13.54	8.11
	Committed	13.20	7.82
	Overall	13.36	7.94
Self-esteem			
	Single	22.50	4.86
	Committed	22.50	4.79
	Overall	22.50	4.81
Positive Affect			
	Single	30.66	8.43
	Committed	31.09	7.15
	Overall	30.88	7.76
Negative Affect			
	Single	14.62	5.20
	Committed	14.63	5.23
	Overall	14.62	5.20

Table 3

Mean DTA Scores for Single and Committed Women in Different Threat Groups

Threat Group	Single	Committed
	Death Thought Accessibility	
Relationship	1.32	1.18
Career	0.92	1.16
Control	1.15	1.24

Single vs. Committed on Measures of Attachment Anxiety and Avoidance

Possible scores on measures of attachment avoidance and attachment anxiety range from 1 to 7. Higher scores represent higher levels of the attachment domain. In a study by Swanson and Mallinckckrodt (2001), 65 female undergraduate students scored a mean of 2.72 (SD = 2.72) on attachment avoidance and a mean of 3.77 (SD = 1.06) on attachment anxiety. Mean scores for attachment avoidance and attachment anxiety for single and committed women in the current study are reported in Table 4. The lower avoidance levels and higher anxiety levels as seen in Table 4 were consistent with those of Swanson and Mallinckckrodt. Independent samples t-tests were conducted in order to determine if scores in attachment domains differed for single and committed women. Single women had higher avoidance attachment levels than women in committed relationships, t (197) = 8.10, $p < .001$. Furthermore, single women also had higher anxiety attachment scores than women in committed relationships, t (197) = 3.07, p = .002.

Correlational Analyses

Table 5 shows the various correlations among the study's variables. There were positive correlations between depression and attachment anxiety, negative affect and attachment anxiety, and negative affect and death thoughts. Clearly, both depression and negative affect were related to other negative constructs. Depression and negative affect were also correlated negatively with perceived clarity of career goals suggesting that individuals who are more depressed or experiencing global negative affect may have more difficulty identifying their career goals. Depression and negative affect were also correlated positively with the age of the participants.

A negative relationship was found between higher levels of self-esteem and both attachment avoidance and anxiety. Results also revealed a positive correlation between self-esteem and clarity of career goals as well as positive affect and clarity of career goals.

Perhaps the most interesting result from the correlational analyses was in relation to participants' academic level and the degree of importance placed on committed romantic relationships. As academic level increased, the importance of a romantic relationship decreased. Furthermore, while attachment avoidance was correlated positively with academic level, it was correlated negatively with the importance these women placed on relationships.

Table 4

Mean Attachment Anxiety and Avoidance Scores for Single and Committed Women

Romantic Attachment		*M*	*SD*
Avoidance			
	Single	3.32	1.09
	Committed	2.17	.93
	Overall	2.71	1.16
Anxiety			
	Single	3.64	1.05
	Committed	3.17	1.13
	Overall	3.39	1.11

Table 5

The Relationship between Relevant Measures of Affect, Attachment, DTA, Age, Academic Level, Relationship, and Career

	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Depression	-.64**	-.34**	.53**	.13	.49**	.05	.18**	-.04	.09	-.28**
2. Self-esteem	--	.31**	-.34**	-.19**	-.40**	-.08	.01	.08	.02	.33**
3. Positive Affect	--	--	.02	-.07	-.05	.03	.03	.12	-.06	.24**
4. Negative Affect	--	--	--	.05	.34**	.21**	.19**	.07	.07	-.19**
5. Attachment Avoidance	--	--	--	--	.16*	0.00	0.00	.19**	-.35**	-.12
6. Attachment Anxiety	--	--	--	--	--	.10	.06	.04	.07	-.14
7. Death Thoughts	--	--	--	--	--	--	.09	.02	.03	-.03
8. Age	--	--	--	--	--	--	--	.12	.03	-.02
9. Academic Level	--	--	--	--	--	--	--	--	-.22**	-.05
10. Imp. of Relationship	--	--	--	--	--	--	--	--	--	.13
11. Clarity of Career Goals	--	--	--	--	--	--	--	--	--	--

Note. *$p < .05$ (2-tailed) ** $p < .01$ (2-tailed)

Tests of Main Hypotheses

Differences in Death Thought Accessibility

In order to test the first and second hypotheses, and to determine whether death thought accessibility (DTA) differs for single and committed women depending on the type of threat received, a 2 (single, committed) by 3 (relationship, career, control) factorial ANOVA was conducted on the transformed data. There was a statistically significant main effect of the type of threat received on DTA, $F(2, 193) = 3.11, p = .05$ suggesting that regardless of participant's status, the type of threat women received influenced their DTA (the mean DTA scores will be tested in a subsequent analysis). No main effect was found for status, $F(1,193) = .84, p = .36$, suggesting that whether women were single or in a relationship did not influence their DTA. Finally, an interaction between status and threat on DTA was not found, $F(1, 193) = 2.32, p = .10$, which indicated that the effect of the threat on DTA was not different for single and committed women.

According to Jaccard and Guilamo-Ramos (2002), most social scientists that analyse their data using a factorial analysis of variance do not proceed to further analyses if the *F* test for interaction is not found to be statistically significant. In our analyses, the status and threat interaction on DTA resulted in $p = .10$. The omnibus *F* was trending towards significance suggesting that further analyses were justified. Furthermore, Jaccard and Guilamo-Ramos argue that being too conservative about omnibus *F* significance levels can be detrimental to research as the omnibus *F* is often of less conceptual interest than single degree of freedom tests. Jaccard and Guilamo-Ramos urge researchers to disregard the omnibus test and apply contrasts to their data if they are able to identify

contrasts that they believe to be conceptually valuable. In this research there were a number of contrasts that seemed very important. For example, it was important to determine whether women who received the career threat differed significantly in death thought accessibility from women who received the relationship threat (hence the need to test main effects).

Thus, the factorial ANOVA was followed by single degree of freedom contrasts in order to test main effects (e.g., differences between career, relationship and control threats collapsing over relationship status), simple main effects (e.g., differences between career, relationship and control threats at single relationship status) , and interaction contrasts (e.g., career and relationship threats interacting with single and committed statuses). In order to create computational syntax to perform this series of contrasts, weighted coefficients were used to isolate the cells used in each specific contrast. Table 6 provides a summary of the coefficients for all of the single degree of freedom main effects, simple main effects, and interaction contrasts that were evaluated. From left to right, coefficients 1 – 9 and 13 - 15 are listed in the following order of 6 status by threat combinations and represented by $c_1 - c_6$: single/career, single/relationship, single/control, committed/career, committed/relationship, and committed/control. In order to accommodate statistical software difficulties, the order for the coefficients ($c_1 - c_6$) for 10 - 12 was changed to represent a threat by status combination: career/single, career/committed, relationship/single, relationship/committed, control/single, and control/committed.

Table 6

Coefficients for Single Degree of Freedom Contrasts

Main Effects	c_1	c_2	c_3	c_4	c_5	c_6
1. Career vs. control	.5	0	-.5	.5	0	-.5
2. Relationship vs. control	.0	.5	-.5	0	.5	-.5
3. Career vs. relationship*	.5	-.5	0	.5	-.5	0

Note. c_1 . c_6 represent the various combinations of status and threat. For items 1 – 3: c_1: single/career, c_2: single/relationship, c_3: single/control, c_4: committed/career, c_5: committed/relationship, and c_6: committed/control.

*$p < .05$.

Status by Threat Simple Effects	c_1	c_2	c_3	c_4	c_5	c_6
4. Career vs. relationship at single*	1	-1	0	0	0	0
5. Relationship vs. control at single	0	1	-1	0	0	0
6. Career vs. control at single	1	0	-1	0	0	0
7. Career vs. relationship at committed	0	0	0	1	-1	0
8. Relationship vs. control at committed	0	0	0	0	1	-1
9. Career vs. control at committed	0	0	0	1	0	-1

Note. c_1 . c_6 represent the various combinations of status and threat. For items 4 – 9: c_1: single/career, c_2: single/relationship, c_3: single/control, c_4: committed/career, c_5: committed/relationship, and c_6: committed/control.

*$p < .05$.

Threat by Status Simple Effects	c_1	c_2	c_3	c_4	c_5	c_6
10. Single vs. committed at career*	1	-1	0	0	0	0
11. Single vs. committed at relationship	0	0	1	-1	0	0
12. Single vs. committed at control	0	0	0	0	1	-1

Note. c_1 . c_6 represent the various combinations of threat and status. For items 10 – 12: c_1: career/single, c_2: career/committed, c_3: relationship/single, c_4: relationship/ committed, c_5: control/single, and c_6: control/committed.

*$p < .05$.

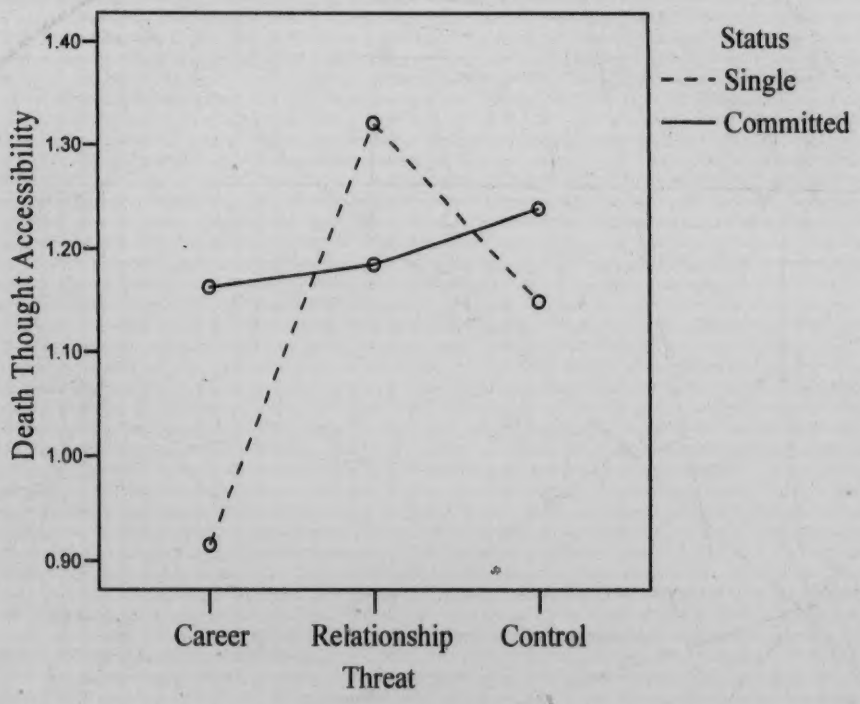
Interaction Contrasts	c_1	c_2	c_3	c_4	c_5	c_6
13. Career vs. relationship by status*	1	-1	0	-1	1	0
14. Career vs. control by status	1	0	-1	-1	0	1
15. Relationship vs. control by status	0	1	-1	0	-1	1

Note. c_1 . c_6 represent the various combinations of status and threat. For items 13 - 15: c_1: single/career, c_2: single/relationship, c_3: single/control, c_4: committed/career, c_5: committed/relationship, and c_6: committed/control.

*$p < .05$.

First, there was a statistically significant career vs. relationship main effect which indicated higher death thought accessibility for women in the relationship condition (M = 1.25) compared to those in the career condition (M = 1.05), $F(1, 193) = 5.75$, $p = .02$. Second, as shown in Figure 1, there was a statistically significant simple main effect contrast between the career and relationship threat for single women. Single women in the relationship threat condition (M = 1.32) had higher death thought accessibility than singles in the career condition (M = 0.92), $F(1, 193) = 9.64$, $p = .002$. Third, a statistically significant simple main effect was found for single vs. committed women in the career condition, $F(1, 193) = 4.07$, $p = .05$. This indicated that women in committed relationships had higher levels of DTA than single women in the career threat condition. Finally, there was a statistically significant interaction contrast for career vs. relationship by status, $F(1, 193) = 4.61$, $p = .03$ as illustrated in Figure 1. This suggested that there is minimal change in DTA for committed women in the career and relationship conditions whereas single women have higher levels of DTA in the relationship condition compared to the career condition. It is important to note that although the familywise error rate was considered, the sample size in each of the six conditions was quite small (approximately 30 participants in each). Thus, controlling the familywise error rate would considerably decrease power. As stated by Jaccard and Guilamo-Ramos (2002), it is reasonable to decide not to evoke experimenterwise controls in such situations in order to conserve statistical power.

Figure 1. Estimated marginal means of death thought accessibility



In summary, the first hypothesis stated that committed women would have higher levels of death thought accessibility than single women when the idea of a relationship is threatened. The second hypothesis stated that single women would have higher death thought accessibility than committed women when career aspirations are threatened. Although no interaction was found to support these hypotheses, some interesting results were derived by following up the analysis with single degree of freedom contrasts. Overall, women who received relationship threats were found to have higher death thought accessibility than women who received career threats. For the single women in the sample, this same pattern was observed. The single women who received relationship threats had higher death thought accessibility than those who received career threats. When looking at the women receiving the career threat, the committed women were found to have higher death thought accessibility than the single women. Finally, while the difference in death thought accessibility levels between career and relationship conditions was minimal for women in relationships, single women had significantly more death thoughts when faced with a relationship threat than with a career threat.

Romantic Attachment Anxiety as a Moderator

In order to examine the third hypothesis and determine if the statistically significant effect of threat on levels of DTA would be found primarily for individuals' with higher attachment anxiety, a hierarchical regression was employed for level of DTA. This analysis follows those employed by other TMT researchers who were interested in potential moderating variables such as attachment (e.g., Florian et al., 2002; Mikulincer et al., 2002; Taubman-Ben-Ari et al., 2002). It serves to accommodate attachment as a continuous variable. A dummy variable was created that contrasted the two threats

(relationship and career) to the television control. A second dummy variable was created that contrasted the career and control threats to the relationship threat. The rationale for this second dummy variable stemmed from previous research that had already established relationships as a death anxiety buffer (unlike career which was placed with the control). The main effects of the two dummy variables, and attachment anxiety and attachment avoidance were examined, along with the two- and three-way interactions between the two dummy variables and the attachment scores. Step 1 of the analyses involved entering the main effects of the predictors in the model. In Step 2, the two-way interactions were entered. In step 3, the three-way interactions were entered.

Results from the regression revealed a statistically significant main effect for the dummy variable contrasting relationship to TV and career when controlling for attachment avoidance and anxiety, $\beta = -.174$, $p = .03$. This indicated that relationship threats contributed to death thought accessibility beyond the contributions of the career and control threats combined. The main effects for the dummy variable contrasting career and relationship threats with the control, as well as avoidance and anxiety scores, were not statistically significant. Both the two-way and three-way interactions were not statistically significant which suggested that neither anxiety nor avoidance attachment moderated the relationship between threat and DTA.

Negative Affect as a Mediator

In a supplementary analysis, the current study also sought to determine whether negative affect would mediate the relationship between threat and DTA (indicating, to the study's detriment, that DTA was not directly impacted by the threats themselves). We employed a series of three regression models to test for mediation (Baron & Kenny,

1986). According to Baron and Kenny, researchers are to first regress the mediator (negative affect) on the independent variable (threat). Next they must regress the dependent variable (death words) on the independent variable (threat). Finally, they must regress the dependent variable on both the independent variable and on the mediator. In conducting the first step of the analysis, two dummy variables were created in order to accommodate the categorical nature of the threat (career, relationship, and control). The first variable contrasted career with the control and was not found to be significant, $\beta = -.001$, $p = .99$, while the second variable contrasted relationship with the control and was also not significant, $\beta = .053$, $p = .052$. Thus, neither of the dummy variable contrasts was found to affect the mediator (negative affect). The analysis was discontinued at this point because according to Baron and Kenny, mediation is only established when the independent variable is found to affect the mediator in the first equation. This indicated that mediation did not occur, and a direct relationship appeared to exist between the threat and death thought accessibility.

CHAPTER V

DISCUSSION

The findings of this study did not support any of the three hypotheses laid out in the rationale for the research: (a) committed women did not have higher death thought accessibility than single women upon receiving a relationship threat, (b) single women did not have higher death thought accessibility than committed women upon receiving a career threat, and (c) attachment anxiety did not moderate the relationship between the relationship threat and death thought accessibility. However, a number of smaller significant group differences were found that are very worthy of attention and interest. In general, the findings provide considerable support for previous findings in TMT literature.

All of the women (both single and committed) who received a relationship threat had higher levels of death thought accessibility than those who received the career threat. In terms of just the single women in the study, those who were exposed to the relationship threat had higher death thought accessibility than those exposed to the career threat. For those women who received the career threat, committed women were found to have higher levels of death thought accessibility than the single women. Finally, while single women had significantly more death thoughts upon facing a relationship threat than they had facing a career threat, committed women showed very little changes in death thoughts between career and relationship threats. In a supplementary analysis that is typical of TMT, negative affect did not appear to mediate the relationship between the threat type and death thought accessibility, which indicated a direct relationship between the threat and the death thought accessibility.

Descriptive Analyses: Surface Evidence Supporting the Hypotheses

The results of this study were unexpected and surprising and will require much discussion. I will begin by examining some of the results derived from the preliminary, descriptive analyses before exploring the main hypotheses. These findings, which seem to align very well with the hypotheses, "set the stage" for the complicated and surprising results found in the primary analyses. More specifically, the descriptive analyses indicated that in general, single women prioritized career aspirations while committed women prioritized their romantic relationships. However, when TMT methodologies were employed in order to evoke death thought accessibility, the results established the importance and prevalence of relationships to most women. As a whole, the contradictory findings of the current study seem to profoundly reflect the ambivalence and perhaps frustration of women from industrialized countries in the 21st century.

The participants were asked whether a career or relationship is more important in their life right now, and they had to choose one or the other. In line with the theme of the current study, single women were found to place significantly more importance on their career while women in committed romantic relationships saw their relationship as a priority. Results from the descriptive analyses also revealed that women who were enrolled in a higher academic level such as a PhD program, were more likely to be single than those in a committed relationship. Correlational analyses in the current study also found that a woman's beliefs about the importance of relationships decreased as her academic level increased. These results make sense in light of numerous studies that have found that the greater a woman's prestige and more importance she places on her work role, the more likely she is to have relationship difficulties (Kaltreider et al., 1997). It

seems that, for many women seeking professional careers, the choice to remain single has become a more feasible option (Alejano-Steele, 1997). What these results do not reveal, however, is whether the career aspirations so strongly pursued by single women serve as their primary death-anxiety buffer (in the absence of a relationship). The rest of the study sought to answer that question.

Relationships Remain the Primary Death Anxiety Buffer

The current study's first hypothesis stated that when faced with a relationship threat, women in committed relationships will have higher death thought accessibility than women who are single. Conversely, the second hypothesis stated that when faced with a threat to career aspirations, single women will have higher death thought accessibility than committed women. A study by Hirschberger et al. (2002) found that when reminded of death, their sample of young adults strived to form close relationships and even lower their standards to a less than ideal mate. Using Erikson's series of developmental tasks as a framework, they argued that intimacy was one of the most important stages in psychosocial development. They asserted that a similar reaction to mortality salience is likely to occur for individuals with high inner resources in other self-actualizing ways such as an increase in career motivations. Similarly, Mikulincer et al. (2003) concluded that relationship strivings were the most powerful defence against death anxiety, however, if close relationships do not, or cannot buffer anxiety, individuals may rely on other terror management mechanisms that are culturally derived. In the case of the current study, we wanted to know whether career aspirations became the most powerful anxiety buffer for women in the absence of a relationship.

For single university women, most of who are in emerging adulthood, it seemed likely that career would replace relationships as their primary death anxiety buffer. The results, however, did not support this expectation. Both single and committed women were found to have higher levels of death thought accessibility when receiving a relationship threat than the single and committed women who received the career threat. In fact, while the differences in death thought accessibility between the career and relationship threat conditions was minimal for committed participants, the difference was significant for those who were single. A threat to one's relationship (or, in the case of single women, a threat to an imagined relationship) brought forth significantly higher levels of death anxiety than a threat to one's current career aspirations. Interestingly, this finding was particularly true of single women, despite the fact that they were not in a real-life relationship when the data was collected.

Although they were unexpected, these findings provide even more support for much of the TMT relationship literature to date. They reflect the growing consensus that when dealing with death concerns, close relationship strivings are the primary defence mechanism and, as such, appear to override the need for cultural worldview and self-esteem mechanisms (Mikulincer et al., 2003). Previous research has found relationships to be so powerful that they persist as a death anxiety buffer despite complaint and criticism from their romantic partners – the anxiety buffers themselves (Hirschberger, et al., 2003). This powerful need for human relationship and connection was also illustrated in the study by Wisman and Koole (2003) who presented participants with the choice to sit in isolation while defending their own worldviews, or to sit with others while attacking their worldviews. Those in the mortality salience condition preferred to sit in

the group and turn against their personal worldviews to maintain affiliation with others. The power of human relationships was further substantiated in the present study. Even those without a romantic relationship experienced heightened death thought accessibility at the very thought of losing their imagined partner. But why are relationships, or even the hope of relationships, so powerful? Why weren't career aspirations a more prominent anxiety buffer for single women?

Hirschberger et al. (2003) believe that in the face of mortality, a cognitive shift occurs, leading to a drastic change in perspective. They claim that other motivations become viewed as transitory and impermanent while relationships suddenly feel more important and enduring. It is possible that participants in the current study experienced a similar shift in perspective, perhaps on a level beneath that of conscious awareness, causing them to feel more anxiety at the thought of losing a relationship than a career. Mikulincer et al. (2003) observed that close relationships are universally valued by every culture and society. It is very likely that career strivings are not equally valued among all women. Careers certainly have never been viewed as so essential and fundamental to a full human life for women as relationships. It stands to reason, then, that they may not have the same effective anxiety buffering properties as relationships.

While the current findings served as another contribution to TMT literature regarding the importance of romantic relationships, it also addressed several unresolved issues in the area, leading to important insights for TMT research. Hirschberger et al. (2002) urged future researchers to explore the effects of mortality salience in regards to the act of compromising in other important areas of life. Florian et al. (2002) suggested this as well, recommending that a situation in which a culturally valued goal that is at

odds with relationship strivings (such as career) be carefully examined. The investigation of individual differences related to relationships as potential moderators was also emphasised as integral to future TMT research (Florian et al.). The current study addressed each of these issues, pitting the culturally valued goal of career against relationship strivings to determine potential differences in death thoughts based on current relationship status.

While the present research appeared to strengthen the assertion that death anxiety motivates individuals to overlook threats to their worldview in order to form an intimate connection with another human (Mikulincer et al., 2003), one of the results remains somewhat obscure. Of the participants who were presented with the career threat, committed women were found to have significantly higher death thought accessibility than single women. In an effort to understand this unique finding, we once again turn to the insights of Ernest Becker.

Becker (1973) described the female situation as particularly difficult. The separation of their female, social roles from their distinct and unique individuality is extremely challenging, as the two seem to be deeply entangled and, because of both natural and culturally-created constraints, often in conflict. To Becker, it seemed very natural that women, who have the ability to bring new life into the world, simply succumb to this social role, deriving symbolic immortality from motherhood, intimacy, and the achievements of their partners. However, this sacrifice of one's own personality and gifts becomes almost "self-negating" or "masochistic," (Becker, 1973, p. 170). Indeed, a very real existential dilemma arises for women who are unable to fully commit themselves to both personal aspirations and feminine roles (such as motherhood), causing

high levels of anxiety and stress (Dingle, 2002). The current pressure on women to "do it all" and to fulfill the expectations of others often results in women feeling as though they have lost touch with themselves and their own aspirations (Martin, 1997, p. 169). Perhaps the women in romantic relationships in the present study, who were trying to balance both a career and a relationship, felt particularly sensitive to the thought of never being able to pursue their career. Further research is needed in order to determine if career threats pose a particularly anxiety-provoking threat to women in relationships who are trying to disentangle their numerous roles while maintaining their individuality.

The Role of Attachment Avoidance and Attachment Anxiety

Preliminary analyses identified single women as having higher attachment avoidance and anxiety than committed women. Single women were also more likely to place more importance on their career while committed women were more likely to make their romantic relationship a priority. These results reflect Light's (1984) study on employed women's reported commitment levels to family and career roles. It was discovered that women who reported placing their careers over their family had significantly higher levels of anxiety, depression, and hostility whereas the women who prioritized family over career had lower scores on these dimensions. While this implies that prioritizing one's career over a relationship leads to higher levels of anxiety, the reverse may be true as well. Women with higher levels of insecure attachment will likely find the formation and maintenance of an intimate relationship more difficult. As a result, they may decide to devote more time to their career development. Either way, it appears as though for all women, intimate relationships are extremely important to psychological integrity.

Not surprisingly, correlational analyses in the current study also found a positive relationship between academic level and attachment avoidance. There was also a negative relationship between relationship importance and attachment avoidance. As noted by Brennan et al. (1998), avoidant behaviour is strongly associated with a negative model of others. This was also identified in TMT relationship focussed research which identified individuals with insecure attachment styles as more likely to seek impersonal anxiety buffers related to their cultural worldview as opposed to intimacy (Mikulincer & Florian, 2000). In fact, researchers also found that after being provided the opportunity to validate their cultural worldviews, only avoidant persons experienced a decrease in death thought accessibility (Mikulincer & Florian). It makes sense, then, that higher attachment avoidance levels were positively associated with academic level (an important aspect of many people's cultural worldview) and negatively associated with relationship importance.

While TMT studies have found attachment to be a moderating variable between a relationship threat and death thought accessibility (e.g., Mikulincer et al., 2002) as well as a moderating variable between mortality salience and relationship strivings (e.g., Mikulincer & Florian, 2000; Taubman-Ben-Ari, 2002), the current study failed to replicate these results. Following the reasoning of Mikulincer et al., it was expected that individuals with high levels of attachment anxiety who were in the relationship threat condition would experience significantly higher levels of death thought accessibility. Unlike the avoidant attachment persons who have not been found to be associated with separation anxiety and death concerns (Mikulincer & Florian, 2000), anxiety attachment persons are thought to fall in love quickly and easily, experience relationship strife

(Brennan et al., 1998), and exhibit dependent behaviour (Freeny, & Noller, 1990). They were therefore expected to experience significantly higher levels of anxiety subsequent to experiencing a relationship threat.

Perhaps this unexpected finding might serve as an exemplary instance of the point made by Fraley and Shaver (2000) in their critique of attachment theory. They noted that despite an implicit assumption in most attachment research, not all romantic relationships are characterized by genuine attachment. Perhaps some of the women in the current study had yet to form attachment relationships with their partner, thus making somewhat suspect their responses on the attachment measure. The implications of this finding for future research will be discussed in detail later.

Mediation of Negative Affect

TMT theory rests on the assumption that a direct relationship exists between the threat given to participants, and their level of death thought accessibility. To provide a check on whether this is in fact the true causal relationship, it is common practice to examine the potential mediating effect of global aversive feelings (to determine whether the threat caused negative feelings which then caused an increase in death thought accessibility). For example, a study by Goldenberg et al. (1999), found that mortality salience led participants to rate physical sex as less appealing, particularly those high in neuroticism. They also examined the possibility that negative affect mediated the association between mortality salience and physical sex interest. The current study employed statistical analyses described by Baron and Kenny (1986) in which a three stage process is implemented to determine whether mediation has occurred. The first condition was not met so the analysis was discontinued.

Although the assumption that a direct relationship existed between the threat and death thought accessibility in the current study paralleled that of other TMT research (e.g., Goldenberg et al., 1999; Florian et al., 2002), it was not without methodological concerns in our study. In Goldenberg et al.'s (1999) study, the PANAS scale was administered to participants between the mortality salience manipulation (IV) and the appeal of sex measure (DV). This allowed researchers to view negative affect as part of a causal chain (in the correct temporal sequence) which is considered to be mediation in its truest form. Goldenberg et al. were able to administer their measures in this beneficial order because they were measuring mortality salience in a substantially different way. In that type of design, effects of mortality salience are strongest after a short delay or period of distraction when death thoughts are on the fringe of conscious awareness (Greenberg et al., 1994). Thus, the researchers simply inserted the PANAS scale as the required *distraction* in their study.

Instead of inducing mortality salience and then measuring a construct as Greenberg et al., (1999) did, the present study does the reverse (threatens a construct and then measures mortality salience). The nature of this particular design requires that death thought accessibility be measured directly after the anxiety buffer threat (Florian et al., 2002; Mikulincer et al., 2002) leaving no time to administer the PANAS in between. Instead of implementing the painstaking and rigorous procedures of hiring blind researchers to rate each participant's level of aversive feelings based on their qualitative response to their particular threat (e.g., Florian et al., 2002), the present study measured global affect as close to the manipulation as possible (placing it directly after the death thought measure). Although a causal chain could no longer be implied, we believe a first

hand account of one's emotional state is more representative of the participant's affect than that of ratings from an outside source. Still, while no mediation was found, the test for mediation in our study was somewhat weakened by this procedure. Researchers in the area might consider following the design of Goldenberg et al. (1999) if they choose to test for mediation in order to avoid third party ratings of the participant's emotions (e.g., Florian et al.) and methodological issues (as seen in the present study). Otherwise, a revised methodology may be required to properly assess mediating variables in terms of a causal chain.

Implications of the Study

The results of this study indicate that the existential importance of relationships surpasses that of career for university women, many of whom are in the developmental stage of emerging adulthood. These findings could be placed within either an evolutionary or a social constructionist framework. It makes sense that romance would take precedence over career for women since relationships have existed for countless thousands of years while women's strivings to develop professional careers is a relatively recent phenomenon. The socialization of women to take on a role of connectedness and nurturance has also been consistently reinforced in human culture. Regardless of the explanation, there appears to be a very basic and fundamental desire for relationships among women.

However, for single women in the current study, there was a clear discrepancy between what they reported as more important to them, and what came out as their more prominent existential pursuit. The ambivalence experienced by single women has important implications, not only for researchers and practitioners, but for all members of

society who are contributing to this issue. Although both feminists and non-feminists agree that a career woman is not better off if she never marries (Kitch, 1994), it may be that many women choose to portray themselves as more contented with a single status than a committed one. One possible explanation is that they have experienced being held in lower esteem by employers, co-workers, or society in general when their dual roles cause them to appear less competitive in the workforce (Alejano-Steel, 1997; Kaltreider, et al., 1997).

Popular culture further reinforces the notion that young women should be independent and self-sufficient with little use for a romantic companion. HBO's hit series, *Sex and the City,* has empowered single women around the world by depicting four highly successful women in New York who often view men more like accessories than permanent fixtures in their lives. The last episode, however, seemed to encapsulate the results of this study, and the vast ambivalence of both educated women and the media in our culture. In this final episode, each woman found a romantic partner with whom she could begin living a happier, more complete life.

If women are to live more complete, multidimensional lives, public policy must be designed in such a way that women are encouraged to pursue satisfying relationships and home lives while also developing their role as career women. Governments, businesses, and universities that seek the valuable contributions of women in their organizations, must take steps towards helping women to be whole people. This will undoubtedly relieve the feelings of ambiguity experienced by young women who simply want that which seems to come so easily to men. Kaltreider (1997) argued that responsibility must move from women themselves to the organizational structure of the

workplace. If business and government organizations develop the structural flexibility to accommodate the family and relational needs of all their employees, women will finally be able to reach their full potential in the workforce (Kaltreider). Even small changes to an organization such as flexible work hours or the option to work from home would assist women in their desire to support a family while maintaining a satisfying career life.

While the organizations must change, one must not forget that women hold much of the responsibility in this change as well. According to Konek, Kitch, and Shore (1994) women often prefer their own coping behaviours in handling dual-career relationships instead of seeking help. They have also been found to hold the belief that things may not change and they must therefore learn to live with their disadvantages as females (Carlisle, 1994). Thus, in order for social change to occur, women must have self-confidence in their abilities yet also realize that they cannot do everything themselves, seeking assistance when necessary (Alejano-Steele, 1997).

One way women can seek help is through psychotherapy, which brings forth more important implications. Existential theorists would predict that when it comes to balancing these various roles, women are faced with an existential dilemma resulting in high levels of distress (Dingle, 2000). When dealing with these issues in a therapeutic setting, the counsellor would benefit from understanding existential theory but would likely be confused as to how to proceed with treatment. While some might recommend practical solutions such as part-time work (e.g. Martin, 1997) or cognitive behavioural therapy (e.g. Dingle), proponents of existential psychotherapy may choose to bring death concerns into the conscious awareness of clients to facilitate psychological growth (Yalom, 1980).

TMT theorists differ from Yalom in that they do not view the awareness of death concerns as an integral step towards the minimization of such concerns (Solomon et al., 1991a). They claim that simply strengthening people's specific cultural anxiety buffers may be enough to alleviate psychological stress and therapists should encourage their clients to adopt the roles consistent with social validation. Given the results of the present study, however, this would indicate that single women's anxiety buffer of romantic relationships (one that is not yet a reality for them), should somehow be strengthened. This would seem to only move women backward in time, when their identity as a person was focussed solely on their role as a partner, and a mother. Thus, a new task for psychotherapists is to work with female clients in a way that evokes solutions to their role identity crisis and existential anxiety while respecting women's longstanding pursuit of equality, freedom, and choice, in today's society. Perhaps an emphasis on the well established self-esteem death anxiety buffer in psychotherapy will be particularly beneficial for single women.

Limitations

Due to the unique difficulties experienced by university women in regards to career and relationships, this research involved female participants and drew upon feminist literature in hopes of clarifying women's specific existential concerns. However, one of the most apparent limitations of this study is that all of the participants were female. Although Florian et al. (2002) may be correct in their assertion that relationship commitment might have stronger anxiety-buffering effects for women, this hypothesis has not yet been strongly supported within the research. All that is known is that relationship factors appear to act as an additional anxiety buffer for both men and women.

Therefore it would still have been useful to attain similar data with men as it might have further clarified *how* women were different. Furthermore, the current research assumed that the act of balancing career with relationships was primarily a woman's hardship when increasingly, men in Western society are making their wives, children, and home life a priority, requesting time off work to start a family.

Besides limiting the scope of this research to women, the proposed study also limited its sample to university students in Canada. This will hinder the present study's potential to be deemed generalizable to all women as Canadian university students may be systematically different from women in general. However, it was still considered valuable to have Canadian participants as it addressed Mikulincer et al.'s (2003) request to replicate this research (which is often conducted in Israel) with different ethnic, cultural, and religious populations.

The sample size also limited this study in terms of statistical power since the participants were divided into six separate conditions with approximately 30 participants in each group. Methodological weaknesses should also be recognized such as the use of self-report measures which can be influenced by social desirability or difficulty recognizing internal experiences (Florian et al., 1998). Finally, the inability to infer a causal chain of mediation due to the complicated nature of the chosen TMT design was also considered to limit the study.

Directions for Future Research

The current study was an enlightening reminder of the importance of human romantic relationships, regardless of whether they are fully realized or not. This brings into question the very nature of a death anxiety buffer, and whether or not it must take on

a tangible, already existing, form, or whether it can be derived from a future goal, an unrealized dream, or an innate sense of what truly matters. Future research might incorporate other abstract concepts such as hopes and goals, and test them against already established and existing death anxiety buffers to determine their relative effectiveness in buffering death.

Women in relationships were found to be particularly anxious regarding the threat of their career aspirations in the current study. It is possible that once individuals become "spread too thin," trying to balance more than one culturally valued lifestyle, a threat to the lifestyle that is given less attention engenders more anxiety as it seems to be the less stable construct in one's life (despite its personal significance and importance). Future research is needed in order to identify what occurs in relation to death anxiety for individuals whose secondary buffers (such as those related to self-esteem and cultural worldview) are at risk. Although relationships seem to consistently rank as most powerful in TMT research, how this impacts other important buffers remains unknown and must be investigated.

The nature of attachment must also be addressed in future TMT research wanting to examine romantic relationship buffers. As was the case in the current study, the potential moderating role of attachment might go unnoticed in cases where an attachment bond has yet to be formed. As indicated by Fraley and Shaver (2000), researchers may have gotten ahead of themselves when examining romantic attachment and assumed that attachment occurred when indeed it may not have. This calls into question the validity of Brennan et al.'s (1998) anxiety measure that was used in the present study. It was designed to test how individuals experience relationships in general and not necessarily in

their current lives. Perhaps individuals assessing their relationships that were truly characterised by an attachment bond responded differently than those in relationships in which a bond was not yet formed. Furthermore, perhaps individuals who were in relationships at the time of the study responded differently than the single participants assessing their general attachment styles. As discussed by Fraley and Shaver, developing a method that makes an empirical distinction between those who have formed true attachment relationships and those who have not is the first step in the remediation of this problem.

TMT research must continue to accumulate data regarding the unique interactions between various anxiety buffers in the lives of individuals from different religious and cultural backgrounds. While Becker has relegated the role of religion to distant history, many people throughout the world face death peacefully because of the solace provided by religious faith. This aspect of different cultures needs to be more extensively examined. In research aimed at understanding the central issues faced by women, such as with the present research, this is particularly important. Unlike their male counterparts, women seem to encounter more difficulties trying to balance their multiple roles. These roles often diverge substantially according to geographic location and cultural context. Studies investigating cultural differences regarding women and their relationships, careers, families, marriages, and other constructs are critical. They will undoubtedly lead to an awareness of both the universal and culturally specific existential dilemmas faced by women today. Results from such studies will lead to further theoretical insight and appropriate therapeutic treatment for women of different backgrounds.

Summary and Conclusion

Sigmund Freud has been cited as one of the first scholars to emphasize the psychological need for all humans to love and to work (Erikson, 1980). In recent decades, women have become increasingly involved in both, struggling to balance their career aspirations and their relationships in order to exercise their freedom and achieve existential meaning. The current study placed this feminist struggle within the framework of terror management theory. In line with previous research, the universal need for human relationship was revealed as the central death anxiety buffer, whereas career aspirations were not found to play this role. Attachment was not found to be a significant factor in this study. The direction of TMT research from a female perspective was highlighted and these findings will contribute to both theoretical and practical improvements in the area.

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APPENDIX A

Sample of The Center for Epidemiologic Studies Depression Scale (Radloff, 1977)

Below is a list of some of the ways you may have felt or behaved. Please indicate how often you have felt this way during the past week by checking the appropriate space.

	Rarely or none of The time (less than 1 day)	**Some or a little of the time (1-2 days)**	**Occasionally or a moderate amount of time (3-4 days)**	**Most or all of the time time (5-7 days)**
1. I was bothered by things that usually don't bother me.	☐	☐	☐	☐
2. I did not feel like eating; my appetite was poor.	☐	☐	☐	☐
3. I felt that I could not shake off the blues even with help from my family or friends.	☐	☐	☐	☐
4. I felt that I was just as good as other people.	☐	☐	☐	☐
5. I had trouble keeping my mind on what I was doing.	☐	☐	☐	☐
6. I felt depressed.	☐	☐	☐	☐
7. I felt that everything I did was an effort.	☐	☐	☐	☐
8. I felt hopeful about the future.	☐	☐	☐	☐

APPENDIX B

Sample of The Self-Esteem Scale (Rosenberg, 1965)

Please answer the following questions about how you feel <u>right now in your life</u> by circling either strongly agree (SA), agree (A), disagree (D), or strongly disagree (SD).

1. On the whole, I am satisfied with myself.	SA	A	D	SD
2. At times I think I am no good at all.	SA	A	D	SD
3. I feel that I have a number of good qualities.	SA	A	D	SD
4. I am able to do things as well as most other people.	SA	A	D	SD
5. I feel I do not have much to be proud of.	SA	A	D	SD

APPENDIX C

The Relationship Threat - based on a similar version by Mikulincer, Florian, Birnbaum, & Mashlikovitz (2002)

Please read over the following question and take a few moments to imagine the situation in as much detail as you can. Next, address each of the aspects of this question in written format in the provided space below.

Imagine a final separation from a close romantic relationship partner. Describe the emotions and thoughts that this situation arouses in you. How do you feel about this situation?

APPENDIX D

The Career Threat - based on a similar version by Mikulincer, Florian, Birnbaum, & Mashlikovitz (2002)

Please read over the following question and take a few moments to imagine the situation in as much detail as you can. Next, address each of the aspects of this question in written format in the provided space below.

Imagine never being able to pursue the career of your choice. Describe the emotions and thoughts that this situation arouses in you. How do you feel about this situation?

APPENDIX E

The Control Threat - based on a similar version by Mikulincer, Florian, Birnbaum, & Mashlikovitz (2002)

Please read over the following question and take a few moments to imagine the situation in as much detail as you can. Next, address each of the aspects of this question in written format in the provided space below.

Imagine a favourite television show being cancelled. Describe the emotions and thoughts that this situation arouses in you. How do you feel about this situation?"

APPENDIX F

Death Thought Accessibility (Schimel, Hayes, Williams, and Jahrig, in press)

Sample Word Completion Task

Please complete the following by filling letters in the blanks to create words. Please fill in the blanks with the first word that comes to mind and do not spend too much time on each word. Write one letter per blank. Some words may be plural.

1. BUR _ _ D
2. PLA _ _
3. WAT _ _
4. DE _ _
5. MU _ _
6. _ _ NG
7. B _ T _ LE
8. M_ J _ R
9. FL _ W _ R
10. GRA _ _
11. CHA _ _
12. KI _ _ ED
13. TAB _ _
14. W _ _ DOW
15. SK _ _ L
16. TR _ _
17. P _ P _ R
18. COFF _ _
19. POST _ _
20. R _ DI _

APPENDIX G

Sample of the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988).

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way right now, that is, at the present moment. Use the following scale to record your answers.

1	2	3	4	5
Very slightly or not at all	**a little**	**moderately**	**quite a bit**	**extremely**

_____	interested	_____	irritable
_____	distressed	_____	alert
_____	excited	_____	ashamed
_____	upset	_____	inspired
_____	strong	_____	nervous
_____	guilty	_____	determined

APPENDIX H

Sample of the Experiences in Close Relationships Scale (Brennan, Clark, & Shaver, 1998)

The following statements concern how you feel in romantic relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided, using the following rating scale:

Disagree strongly			**Neutral/mixed**			**Agree strongly**
1	**2**	**3**	**4**	**5**	**6**	**7**

_____1. I prefer not to show a partner how I feel deep down.

_____2. I worry about being abandoned.

_____3. I am very comfortable being close to romantic partners.

_____4. I worry a lot about my relationships.

_____5. Just when my partner starts to get close to me I find myself pulling away.

_____6. I worry that romantic partners won't care about me as much as I care about them.

_____7. I get uncomfortable when a romantic partner wants to be very close.

_____8. I worry a fair amount about losing my partner.

_____9. I don't feel comfortable opening up to romantic partners.

_____10. I often wish that my partner's feelings for me were as strong as my feelings for him/her.

_____11. I want to get close to my partner, but I keep pulling back.

APPENDIX I

(Demographic, Career, and Relationship Information)

Please complete the following questions:

1. Birthday (yy/mm/dd) _____/_____/_____

2. Ethnicity

    a. Caucasian/European

    b. Chinese

    c. Japanese

    d. East Indian/ Pakistani

    e. Middle Eastern

    f. African Canadian

    g. Aboriginal

    h. Hispanic

    i. Other _____

3. Sexual Orientation

    a. heterosexual

    b. homosexual

    c. bisexual

4. Academic Level in University

    a. undergraduate

    b. graduate (masters)

c. graduate (PhD)

5. Academic Year in University

a. First year

b. Second year

c. Third year

d. Fourth year

e. Other/ Not Applicable. Explain. _____

6. Academic Program in University _____

7. Career Goal _____

8. Are you married?

a. Yes (if yes, what was the date of marriage? _____/_____/_____(yy/mm/dd)

b. No

9. How important is a lasting, committed, romantic relationship to you?

1 2 3 4 5 6 7

Not very important Very important

10. I have a clear idea of my career goals.

1 2 3 4 5 6 7

Not clear Very clear

11. I feel I am currently working towards my career goals.

1 2 3 4 5 6 7

Not at all Very much

12. How important is achieving your career goals to you?

1 2 3 4 5 6 7

Not very important Very important

13. Which is more important to you in your life right now? Choose one.

a. Career

b. Romantic Relationship

14. Are you currently in a committed romantic relationship?

a. Yes

b. No

15. If you answered **no** to question 13, how long have you had this status of being single?

_____years _____months

16. If you answered **yes** to question 13, how long have you had this romantic relationship status?

_____ years _____ months.

17. If you answered **yes** to question 13, how committed are you to your partner?

1 2 3 4 5 6 7

Not committed Very committed

18. If you answered **yes** to question 13, are you in a relationship with

a. A man

b. A woman

19. If you answered **yes** to question 13, are you currently living with your romantic partner (i.e. married and living together, not married and common-law)?

a. Yes

b. No

20. To all participants who contacted me to participate in this study: Is your current relationship status (single or committed) the same as it was when you initially signed up for this study?

a. Yes

b. No

APPENDIX J

INFORMATION SHEET

Principal Researcher: Rochelle Major rmajor@ualberta.ca

Supervisor: Dr. William Whelton wwhelton@ualberta.ca

We invite you to participate in our current research project that is focussed on female university students from all different religious, educational, and socioeconomic backgrounds who are both single (minimum 6 months) or in a committed relationship (minimum 6 months). The purpose of this study is to try to understand how women differ on various measures of well-being as well as their emotions and insights in regards to aspects of their life. It is our hope that we can use this information in order to get a better idea of female university students' life experiences.

The study consists of a single questionnaire composed of an assortment of measures as well as a personal reflection. You will be asked to carefully read the instructions on each page and complete the questionnaire in order, without skipping ahead. Completing this questionnaire should take no longer than 15 – 25 minutes and each participant will receive $10.00 for their contribution to this study. The results of this study will be locked in a secure area and no identifying names will be collected. The consent form with the names will be kept separate from the anonymous questionnaires and locked in a secure area.

It is important to understand that this project is voluntary. This means that you may choose to participate or withdraw at any time throughout the study without any penalty. Also, the researcher in this study complies with the University of Alberta Standards for the Protection of Human Research participants. There may be some risk as talking about the loss of certain aspects in your life may lead to you feel distress. If this is the case, counselling will be made available to you upon request. The data from this study may be used in published scientific literature, presented at relevant conferences and symposiums, or may be used for educational purposes.

If you have any questions or concerns regarding this project or if you would like a copy of this report upon its completion, please feel free to contact us.

APPENDIX K
CONSENT FORM

Principal Researcher: Rochelle Major rmajor@ualberta.ca

Supervisor: Dr. William Whelton wwhelton@ualberta.ca

Objectives: We are interested in female university students' self-concepts and interpersonal perceptions across a number of situations.

Procedure: In this study, you will be asked to fill out a brief questionnaire that contains demographic questions, measures of well-being, and a personal refection. By examining students' various responses to these questions we can begin to understand the perceptions of women and how they relate to their social context. We anticipate that group testing will take approximately 15 - 25 minutes. You will receive $10.00 for participating in this research. You are free to not participate and to withdraw at any time without penalty. Although you name will appear on this form, it will be kept confidential and separate from your answers in order to ensure anonymity. Both the consent forms and the questionnaires will be locked in a secure area. The data from this study may be used in published scientific literature, presented at relevant conferences and symposiums, or may be used for educational purposes.

If you have any questions or concerns about this study or wish to receive a summary of the results upon it's completion, you can contact either researcher or the University of Alberta Research Ethics Board in the Faculty of Education (Dr. Derek Truscott).

I, _____, understand what will be asked of me in this study and that have a right to not participate if I do not wish to. I understand that my identity will be kept completely confidential and that my name will not be used anywhere except on this form which will be kept separate from my answers on the questionnaire to ensure anonymity. I understand that my answers will only be reviewed by the researchers in this study and that I am free to withdraw from the study at any time without penalty. I understand that this data may be used for presentations and in research articles. Finally, I understand that if I experience any kind of distress from this study and would like to seek counselling, this option will be made available to me.

_____ _____

(signature) (date)

_____

(researcher)

The plan for this study has been reviewed for its adherence to ethical guidelines and approved by the Faculties of Education, Extension and Augustana Research Ethics Board (EEA REB) at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Chair of the EEA REB at (780) 492-3751.

APPENDIX L
DEBRIEFING FORM

Title: Terror Management Theory: Relationships and Career Aspirations in University Women

Principal Researcher: Rochelle Major rmajor@ualberta.ca

Supervisor: Dr. William Whelton wwhelton@ualberta.ca

Thank you for participating in this study and helping us learn more about the experiences of women in university. By answering the questionnaire, you provided information regarding existential questions involving personal meaning, anxiety, self-esteem, relationships, and attachment.

More specifically, you contributed to a growing body of research examining how human beings function effectively with their concerns relating to human existence. According to one prominent and well-researched theory of personality and social psychology, humans manage their anxiety about how to live their lives through three anxiety buffers: the enhancement of their self-esteem and the adherence to their cultural worldview, and close relationships (Mikulincer, Florian, & Hirschberger, 2004).

Our study examines close relationships and their anxiety buffering effect. We have added two new components to our research by investigating the possible role of career aspirations and the experiences of being a woman. We are particularly interested on the emphasis women (both single and committed) place on career and relationships as well as the influence of self-esteem and attachment.

If you have any questions or want a summary of the results, you can contact the principal researcher. Thank you once again for your time and contribution to this research.

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